



SEQUENCE LISTING

<110> ITOH, KYOGO
SHICHIJO, SHIGEKI

<120> TUMOR ANTIGEN

<130> Q78382

<140> 10/734,049

<141> 2003-12-12

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<151> 2002-06-11

<150> JP 2001-177058

<151> 2001-06-12

<150> JP 2001-250728

<151> 2001-08-21

<160> 436

<170> PatentIn Ver. 3.3

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peptide recognized by HLA-A2 restricted cytotoxic
T lymphocytes

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peptide recognized by HLA-A2 restricted cytotoxic
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 peptide recognized by HLA-A2 restricted cytotoxic
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 peptide recognized by HLA-A2 restricted cytotoxic
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 peptide recognized by HLA-A2 restricted cytotoxic
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 peptide recognized by HLA-A2 restricted cytotoxic
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 peptide recognized by HLA-A2 restricted cytotoxic
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peptide recognized by HLA-A2 restricted cytotoxic
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peptide recognized by HLA-A2 restricted cytotoxic
T lymphocytes

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peptide recognized by HLA-A2 restricted cytotoxic
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peptide recognized by HLA-A2 restricted cytotoxic
T lymphocytes

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T lymphocytes

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peptide recognized by HLA-A2 restricted cytotoxic
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peptide recognized by HLA-A2 restricted cytotoxic
T lymphocytes

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peptide recognized by HLA-A2 restricted cytotoxic
T lymphocytes

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peptide recognized by HLA-A2 restricted cytotoxic
T lymphocytes

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peptide recognized by HLA-A2 restricted cytotoxic
T lymphocytes

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peptide recognized by HLA-A2 restricted cytotoxic
T lymphocytes

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peptide recognized by HLA-A2 restricted cytotoxic
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peptide recognized by HLA-A2 restricted cytotoxic
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peptide recognized by HLA-A2 restricted cytotoxic
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peptide recognized by HLA-A2 restricted cytotoxic
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peptide recognized by HLA-A2 restricted cytotoxic
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peptide recognized by HLA-A2 restricted cytotoxic
T lymphocytes

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T lymphocytes

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 peptide recognized by HLA-A2 restricted cytotoxic
 T lymphocytes

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 peptide recognized by HLA-A2 restricted cytotoxic
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 peptide recognized by HLA-A2 restricted cytotoxic
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peptide recognized by HLA-A2 restricted cytotoxic
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peptide recognized by HLA-A2 restricted cytotoxic
T lymphocytes

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peptide recognized by HLA-A2 restricted cytotoxic
T lymphocytes

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peptide recognized by HLA-A2 restricted cytotoxic
T lymphocytes

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peptide recognized by HLA-A2 restricted cytotoxic
T lymphocytes

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peptide recognized by HLA-A2 restricted cytotoxic
T lymphocytes

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peptide recognized by HLA-A2 restricted cytotoxic
T lymphocytes

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<223> Description of Artificial Sequence: Synthetic peptide recognized by HLA-A2 restricted cytotoxic T lymphocytes

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 peptide recognized by HLA-A2 restricted cytotoxic
 T lymphocytes

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<210> 64
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 peptide recognized by HLA-A2 restricted cytotoxic
 T lymphocytes

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 peptide recognized by HLA-A2 restricted cytotoxic
 T lymphocytes

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 peptide recognized by HLA-A2 restricted cytotoxic
 T lymphocytes

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 peptide recognized by HLA-A2 restricted cytotoxic
 T lymphocytes

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 peptide recognized by HLA-A2 restricted cytotoxic
 T lymphocytes

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<210> 69
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 peptide recognized by HLA-A2 restricted cytotoxic
 T lymphocytes

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 peptide recognized by HLA-A2 restricted cytotoxic
 T lymphocytes

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peptide recognized by HLA-A2 restricted cytotoxic
T lymphocytes

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peptide recognized by HLA-A2 restricted cytotoxic
T lymphocytes

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Gln Leu Ala Asp Ala Leu Gly Pro Ser Ile
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<210> 73

<211> 10

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peptide recognized by HLA-A2 restricted cytotoxic
T lymphocytes

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Gly Leu Pro Leu His Arg Gly Cys Leu Leu
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<210> 74

<211> 9

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peptide recognized by HLA-A2 restricted cytotoxic
T lymphocytes

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peptide recognized by HLA-A2 restricted cytotoxic
T lymphocytes

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peptide recognized by HLA-A2 restricted cytotoxic
T lymphocytes

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T lymphocytes

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 peptide recognized by HLA-A2 restricted cytotoxic
 T lymphocytes

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 peptide recognized by HLA-A2 restricted cytotoxic
 T lymphocytes

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 peptide recognized by HLA-A2 restricted cytotoxic
 T lymphocytes

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 peptide recognized by HLA-A2 restricted cytotoxic
 T lymphocytes

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 peptide recognized by HLA-A2 restricted cytotoxic
 T lymphocytes

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 peptide recognized by HLA-A2 restricted cytotoxic
 T lymphocytes

<400> 83
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 peptide recognized by HLA-A2 restricted cytotoxic
 T lymphocytes

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 peptide recognized by HLA-A2 restricted cytotoxic
 T lymphocytes

<400> 85

Leu Leu Leu Glu Asn Tyr Glu Glu Tyr Ala
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<210> 86

<211> 9

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T lymphocytes

<400> 86

Val Leu Leu Thr Ile Lys Cys Leu Leu
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peptide recognized by HLA-A2 restricted cytotoxic
T lymphocytes

<400> 87

Gly Leu Phe Arg Met Lys Leu Leu Leu
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<210> 88

<211> 9

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<223> Description of Artificial Sequence: Synthetic
peptide recognized by HLA-A2 restricted cytotoxic
T lymphocytes

<400> 88

Asn Leu Pro Pro His Ile Ile Arg Leu
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<210> 89

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<223> Description of Artificial Sequence: Synthetic peptide recognized by HLA-A2 restricted cytotoxic T lymphocytes

<400> 89

Lys Leu Thr Asn Thr Tyr Cys Leu Val
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<210> 90

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<223> Description of Artificial Sequence: Synthetic peptide recognized by HLA-A2 restricted cytotoxic T lymphocytes

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<210> 91

<211> 9

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<223> Description of Artificial Sequence: Synthetic peptide recognized by HLA-A2 restricted cytotoxic T lymphocytes

<400> 91

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<210> 92

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 peptide recognized by HLA-A2 restricted cytotoxic
 T lymphocytes

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 peptide recognized by HLA-A2 restricted cytotoxic
 T lymphocytes

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<220>
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 peptide recognized by HLA-A2 restricted cytotoxic
 T lymphocytes

<400> 95
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 1 5

<210> 96
 <211> 10
 <212> PRT
 <213> Artificial Sequence

<220>
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 peptide recognized by HLA-A2 restricted cytotoxic
 T lymphocytes

<400> 96
 Phe Ile Met Glu Ser Gly Ala Lys Gly Cys
 1 5 10

<210> 97
 <211> 10
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 <213> Artificial Sequence

<220>
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 peptide recognized by HLA-A2 restricted cytotoxic
 T lymphocytes

<400> 97
 Trp Ile Pro Asn Asn Val Lys Thr Ala Val
 1 5 10

<210> 98
 <211> 9
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 <213> Artificial Sequence

<220>
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 peptide recognized by HLA-A2 restricted cytotoxic
 T lymphocytes

<400> 98
 Arg Ile Met Asn Thr Phe Ser Val Val
 1 5

<210> 99
 <211> 9
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<220>
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 peptide recognized by HLA-A2 restricted cytotoxic
 T lymphocytes

<400> 99
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<210> 100
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<220>
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 peptide recognized by HLA-A2 restricted cytotoxic
 T lymphocytes

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Ser Leu Asn Arg Arg Ile Gln Leu Val
 1 5

<210> 101

<211> 9

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
 peptide recognized by HLA-A2 restricted cytotoxic
 T lymphocytes

<400> 101

Arg Leu Ala Thr Ala Leu Gln Lys Leu
 1 5

<210> 102

<211> 10

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
 peptide recognized by HLA-A2 restricted cytotoxic
 T lymphocytes

<400> 102

Gln Leu Val Glu Glu Glu Leu Asp Arg Ala
 1 5 10

<210> 103

<211> 10

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
 peptide recognized by HLA-A2 restricted cytotoxic
 T lymphocytes

<400> 103

Gly Ile Ser Leu Ala Asn Gln Gln Tyr Val
 1 5 10

<210> 104

<211> 9

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
peptide recognized by HLA-A2 restricted cytotoxic
T lymphocytes

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Phe Leu His Ser Gly His Leu His Ala
1 5

<210> 105

<211> 9

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
peptide recognized by HLA-A2 restricted cytotoxic
T lymphocytes

<400> 105

Glu Leu Val Arg Phe Arg Gln Lys Val
1 5

<210> 106

<211> 9

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
peptide recognized by HLA-A2 restricted cytotoxic
T lymphocytes

<400> 106

Lys Leu Ser Glu Ala Ala Gly Arg Val
1 5

<210> 107

<211> 9

<212> PRT

<213> Artificial Sequence

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<223> Description of Artificial Sequence: Synthetic
peptide recognized by HLA-A2 restricted cytotoxic
T lymphocytes

<400> 107

Met Val Leu Asp Leu Met Gln Gln Leu
1 5

<210> 108
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<220>
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 peptide recognized by HLA-A2 restricted cytotoxic
 T lymphocytes

<400> 108
 Ile Met Gln Asn Leu Leu Ser Lys Asp Val
 1 5 10

<210> 109
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<220>
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 peptide recognized by HLA-A2 restricted cytotoxic
 T lymphocytes

<400> 109
 Glu Leu Ala Glu Glu Glu Pro His Leu Val
 1 5 10

<210> 110
 <211> 9
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<220>
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 peptide recognized by HLA-A2 restricted cytotoxic
 T lymphocytes

<400> 110
 Gly Leu Ala Asp Ser Gly Trp Phe Leu
 1 5

<210> 111
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<220>
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 peptide recognized by HLA-A2 restricted cytotoxic
 T lymphocytes

<400> 111
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 1 5

<210> 112
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<220>
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 peptide recognized by HLA-A2 restricted cytotoxic
 T lymphocytes

<400> 112
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 1 5 10

<210> 113
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<220>
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 peptide recognized by HLA-A2 restricted cytotoxic
 T lymphocytes

<400> 113
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 1 5 10

<210> 114
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 peptide recognized by HLA-A2 restricted cytotoxic
 T lymphocytes

<400> 114
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<210> 115
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 peptide recognized by HLA-A2 restricted cytotoxic
 T lymphocytes

<400> 115

Leu Leu Gly Arg Gly Leu Ser Gly Ala
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<210> 116

<211> 9

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peptide recognized by HLA-A2 restricted cytotoxic
T lymphocytes

<400> 116

Val Leu Tyr Leu Phe Tyr Glu Asp Met
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<210> 117

<211> 9

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<223> Description of Artificial Sequence: Synthetic
peptide recognized by HLA-A2 restricted cytotoxic
T lymphocytes

<400> 117

Tyr Val Ala Arg Asn Ala Lys Asp Val
1 5

<210> 118

<211> 10

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<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
peptide recognized by HLA-A2 restricted cytotoxic
T lymphocytes

<400> 118

Leu Ile Gln Asp Thr Ser Arg Pro Pro Leu
1 5 10

<210> 119

<211> 10

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<213> Artificial Sequence

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<223> Description of Artificial Sequence: Synthetic peptide recognized by HLA-A2 restricted cytotoxic T lymphocytes

<400> 119

Gly Leu Phe Ile Phe Ser Ile Val Phe Leu
1 5 10

<210> 120

<211> 10

<212> PRT

<213> Artificial Sequence

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<223> Description of Artificial Sequence: Synthetic peptide recognized by HLA-A2 restricted cytotoxic T lymphocytes

<400> 120

Trp Leu Leu Leu Pro Leu Leu Gly Ala Val
1 5 10

<210> 121

<211> 9

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic peptide recognized by HLA-A2 restricted cytotoxic T lymphocytes

<400> 121

Ile Leu Phe Arg Gly Val Gly Met Val
1 5

<210> 122

<211> 10

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic peptide recognized by HLA-A2 restricted cytotoxic T lymphocytes

<400> 122

Gly Leu Gln Ala Arg Asn Asn Ala Arg Val
1 5 10

<210> 123
 <211> 10
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 peptide recognized by HLA-A2 restricted cytotoxic
 T lymphocytes

<400> 123
 Asp Val Tyr Gly Val Phe Gln Phe Lys Val
 1 5 10

<210> 124
 <211> 10
 <212> PRT
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 peptide recognized by HLA-A2 restricted cytotoxic
 T lymphocytes

<400> 124
 Ser Leu Asn Pro Ile Leu Phe Arg Gly Val
 1 5 10

<210> 125
 <211> 9
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 <213> Artificial Sequence

<220>
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 peptide recognized by HLA-A2 restricted cytotoxic
 T lymphocytes

<400> 125
 Thr Leu His Thr Trp Gly Ser Lys Val
 1 5

<210> 126
 <211> 9
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<220>
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 peptide recognized by HLA-A2 restricted cytotoxic
 T lymphocytes

<400> 126
 Cys Leu Pro Ser Gly Phe Pro Gly Leu
 1 5

<210> 127
<211> 9
<212> PRT
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peptide recognized by HLA-A2 restricted cytotoxic
T lymphocytes

<400> 127
Asn Leu Val Lys Cys Ile Lys Arg Leu
1 5

<210> 128
<211> 9
<212> PRT
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peptide recognized by HLA-A2 restricted cytotoxic
T lymphocytes

<400> 128
Thr Val Phe Leu Glu Gly Asn Leu Val
1 5

<210> 129
<211> 9
<212> PRT
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<220>
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peptide recognized by HLA-A2 restricted cytotoxic
T lymphocytes

<400> 129
Phe Leu Leu Leu Leu Phe Glu Thr
1 5

<210> 130
<211> 9
<212> PRT
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<220>
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peptide recognized by HLA-A2 restricted cytotoxic
T lymphocytes

<400> 130

Tyr Ile Phe Phe Cys Val Leu Phe Leu
1 5

<210> 131

<211> 9

<212> PRT

<213> Artificial Sequence

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<223> Description of Artificial Sequence: Synthetic
peptide recognized by HLA-A2 restricted cytotoxic
T lymphocytes

<400> 131

Phe Leu Leu Leu Phe Gly Phe Trp Lys
1 5

<210> 132

<211> 9

<212> PRT

<213> Artificial Sequence

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<223> Description of Artificial Sequence: Synthetic
peptide recognized by HLA-A2 restricted cytotoxic
T lymphocytes

<400> 132

Ser Val His Pro Arg Leu Phe Leu Leu
1 5

<210> 133

<211> 9

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
peptide recognized by HLA-A2 restricted cytotoxic
T lymphocytes

<400> 133

Ile Leu Phe Pro Arg Lys Pro Ser Ala
1 5

<210> 134

<211> 10

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
peptide recognized by HLA-A2 restricted cytotoxic
T lymphocytes

<400> 134

Lys Val Ala Arg Thr Ile Gly Ile Ser Val
1 5 10

<210> 135

<211> 10

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
peptide recognized by HLA-A2 restricted cytotoxic
T lymphocytes

<400> 135

Phe Leu Ala Ile Leu Gly Gly Ala Lys Val
1 5 10

<210> 136

<211> 9

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
peptide recognized by HLA-A2 restricted cytotoxic
T lymphocytes

<400> 136

Val Val Met Arg Val Asp Phe Asn Val
1 5

<210> 137

<211> 9

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
peptide recognized by HLA-A2 restricted cytotoxic
T lymphocytes

<400> 137

Lys Ile Thr Leu Pro Val Asp Phe Val
1 5

<210> 138
 <211> 10
 <212> PRT
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 <220>
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 peptide recognized by HLA-A2 restricted cytotoxic
 T lymphocytes

 <400> 138
 Ser Leu Phe Asp Glu Glu Gly Ala Lys Ile
 1 5 10

 <210> 139
 <211> 10
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 <220>
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 peptide recognized by HLA-A2 restricted cytotoxic
 T lymphocytes

 <400> 139
 Gln Leu Ile Asn Asn Met Leu Asp Lys Val
 1 5 10

 <210> 140
 <211> 10
 <212> PRT
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 <220>
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 peptide recognized by HLA-A2 restricted cytotoxic
 T lymphocytes

 <400> 140
 Phe Cys Leu Asp Asn Gly Ala Lys Ser Val
 1 5 10

 <210> 141
 <211> 9
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 <213> Artificial Sequence

 <220>
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 peptide recognized by HLA-A2 restricted cytotoxic
 T lymphocytes

 <400> 141
 Ile Ile Gly Gly Gly Met Ala Phe Thr
 1 5

<210> 142
 <211> 10
 <212> PRT
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<220>
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 peptide recognized by HLA-A2 restricted cytotoxic
 T lymphocytes

<400> 142
 Ala Leu Phe Val Ser Phe Ile Ile Asn Val
 1 5 10

<210> 143
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 peptide recognized by HLA-A2 restricted cytotoxic
 T lymphocytes

<400> 143
 Val Leu Ile Thr Ile Ala Asp Thr Phe Val
 1 5 10

<210> 144
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<220>
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 peptide recognized by HLA-A2 restricted cytotoxic
 T lymphocytes

<400> 144
 Phe Leu Phe Leu Asp Lys Tyr Gly Leu
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<210> 145
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<220>
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 peptide recognized by HLA-A2 restricted cytotoxic
 T lymphocytes

<400> 145

Ala Leu Thr Phe Gly Tyr Glu Tyr Val
1 5

<210> 146

<211> 10

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
peptide recognized by HLA-A2 restricted cytotoxic
T lymphocytes

<400> 146

Tyr Leu Gly Trp Gln Cys Leu Ile Ala Leu
1 5 10

<210> 147

<211> 10

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
peptide recognized by HLA-A2 restricted cytotoxic
T lymphocytes

<400> 147

Lys Leu Leu Trp Ile Leu Leu Leu Ala Thr
1 5 10

<210> 148

<211> 9

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
peptide recognized by HLA-A2 restricted cytotoxic
T lymphocytes

<400> 148

Met Leu Phe Ile His Ala Glu Val Ile
1 5

<210> 149

<211> 9

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
peptide recognized by HLA-A2 restricted cytotoxic
T lymphocytes

<400> 149

Lys Leu Ile Lys Arg Ser Gly Tyr Ile
1 5

<210> 150

<211> 10

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
peptide recognized by HLA-A2 restricted cytotoxic
T lymphocytes

<400> 150

Ser Leu Pro Val Cys Ser Leu Lys Leu Ile
1 5 10

<210> 151

<211> 10

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
peptide recognized by HLA-A2 restricted cytotoxic
T lymphocytes

<400> 151

Phe Val Ile Ser Leu Pro Val Cys Ser Leu
1 5 10

<210> 152

<211> 10

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
peptide recognized by HLA-A2 restricted cytotoxic
T lymphocytes

<400> 152

Lys Gln Phe Asp Glu Asn Thr Asn Trp Leu
1 5 10

<210> 153
 <211> 9
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 <213> Artificial Sequence

<220>
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 peptide recognized by HLA-A2 restricted cytotoxic
 T lymphocytes

<400> 153
 Phe Leu Asn Gly Tyr Asn Cys Thr Val
 1 5

<210> 154
 <211> 10
 <212> PRT
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<220>
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 peptide recognized by HLA-A2 restricted cytotoxic
 T lymphocytes

<400> 154
 Ala Met Leu Lys Thr Arg Arg Ser Tyr Leu
 1 5 10

<210> 155
 <211> 10
 <212> PRT
 <213> Artificial Sequence

<220>
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 peptide recognized by HLA-A2 restricted cytotoxic
 T lymphocytes

<400> 155
 Thr Leu Met Lys Pro Ser Ser Phe Thr Thr
 1 5 10

<210> 156
 <211> 10
 <212> PRT
 <213> Artificial Sequence

<220>
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 peptide recognized by HLA-A2 restricted cytotoxic
 T lymphocytes

<400> 156
 Leu Leu Val Asn Ser Gly Pro Leu Ala Val
 1 5 10

<210> 157
 <211> 10
 <212> PRT
 <213> Artificial Sequence

<220>
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 peptide recognized by HLA-A2 restricted cytotoxic
 T lymphocytes

<400> 157
 Met Leu Gly Ser Ala Asp Glu Pro Gly Val
 1 5 10

<210> 158
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 <213> Artificial Sequence

<220>
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 peptide recognized by HLA-A2 restricted cytotoxic
 T lymphocytes

<400> 158
 Lys Gln Asn Asp Leu Pro Gly Ile Ser Val
 1 5 10

<210> 159
 <211> 10
 <212> PRT
 <213> Artificial Sequence

<220>
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 peptide recognized by HLA-A2 restricted cytotoxic
 T lymphocytes

<400> 159
 Tyr Leu Thr Met Leu His Leu Tyr Lys Cys
 1 5 10

<210> 160
 <211> 10
 <212> PRT
 <213> Artificial Sequence

<220>
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 peptide recognized by HLA-A2 restricted cytotoxic
 T lymphocytes

<400> 160

Ile Thr Gly Glu Ala Phe Val Gln Phe Ala
1 5 10

<210> 161

<211> 10

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
peptide recognized by HLA-A2 restricted cytotoxic
T lymphocytes

<400> 161

Val Val Ala Cys Asn Leu Tyr Pro Phe Val
1 5 10

<210> 162

<211> 9

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
peptide recognized by HLA-A2 restricted cytotoxic
T lymphocytes

<400> 162

Met Leu Gly Gly Arg Val Lys Thr Leu
1 5

<210> 163

<211> 9

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
peptide recognized by HLA-A2 restricted cytotoxic
T lymphocytes

<400> 163

Gln Leu Tyr Thr Leu Gln Pro Lys Leu
1 5

<210> 164

<211> 9

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
peptide recognized by HLA-A2 restricted cytotoxic
T lymphocytes

<400> 164

Gly Leu Val Glu Phe Ala Arg Asn Leu
1 5

<210> 165

<211> 10

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
peptide recognized by HLA-A2 restricted cytotoxic
T lymphocytes

<400> 165

Phe Val Ala Leu Ser Asp Val Cys Asp Val
1 5 10

<210> 166

<211> 9

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
peptide recognized by HLA-A2 restricted cytotoxic
T lymphocytes

<400> 166

Arg Leu Asp Phe Asn Leu Ile Arg Val
1 5

<210> 167

<211> 9

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
peptide recognized by HLA-A2 restricted cytotoxic
T lymphocytes

<400> 167

Ile Leu Ala His Thr Asn Leu Arg Leu
1 5

<210> 168
 <211> 10
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 <213> Artificial Sequence

<220>
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 peptide recognized by HLA-A2 restricted cytotoxic
 T lymphocytes

<400> 168
 Cys Met Val Tyr Asp Leu Tyr Lys Thr Leu
 1 5 10

<210> 169
 <211> 10
 <212> PRT
 <213> Artificial Sequence

<220>
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 peptide recognized by HLA-A2 restricted cytotoxic
 T lymphocytes

<400> 169
 Trp Gln Leu Val Lys Glu Leu Lys Glu Ala
 1 5 10

<210> 170
 <211> 9
 <212> PRT
 <213> Artificial Sequence

<220>
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 peptide recognized by HLA-A2 restricted cytotoxic
 T lymphocytes

<400> 170
 Leu Leu Leu Thr Ala Pro Asn Leu Leu
 1 5

<210> 171
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<220>
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 peptide recognized by HLA-A2 restricted cytotoxic
 T lymphocytes

<400> 171
 Ala Leu Phe Pro Gly Leu Ala Pro Glu Thr
 1 5 10

<210> 172
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 <213> Artificial Sequence

<220>
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 peptide recognized by HLA-A2 restricted cytotoxic
 T lymphocytes

<400> 172
 Trp Leu Leu Gly Gly His Val Glu Leu
 1 5

<210> 173
 <211> 10
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<220>
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 peptide recognized by HLA-A2 restricted cytotoxic
 T lymphocytes

<400> 173
 Phe Leu His Leu Leu Gln Ala Asp Asn Val
 1 5 10

<210> 174
 <211> 10
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<220>
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 peptide recognized by HLA-A2 restricted cytotoxic
 T lymphocytes

<400> 174
 Leu Gln Ser Asp His Phe Leu His Leu Leu
 1 5 10

<210> 175
 <211> 10
 <212> PRT
 <213> Artificial Sequence

<220>
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 peptide recognized by HLA-A2 restricted cytotoxic
 T lymphocytes

<400> 175

Met Met Met Leu Gln Asn Ile Leu Gln Ile
1 5 10

<210> 176

<211> 10

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
peptide recognized by HLA-A2 restricted cytotoxic
T lymphocytes

<400> 176

Gln Leu Val Gly Leu Leu Ser Pro Met Val
1 5 10

<210> 177

<211> 10

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
peptide recognized by HLA-A2 restricted cytotoxic
T lymphocytes

<400> 177

Leu Leu Met Ala Glu Ser His Gln Glu Ile
1 5 10

<210> 178

<211> 9

<212> PRT

<213> Artificial Sequence

<220>

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peptide recognized by HLA-A2 restricted cytotoxic
T lymphocytes

<400> 178

Lys Leu His Gln Ala Ala Cys Leu Ile
1 5

<210> 179

<211> 9

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
peptide recognized by HLA-A2 restricted cytotoxic
T lymphocytes

<400> 179

Ile Leu Ser His Cys Cys Val Gly Leu
1 5

<210> 180

<211> 10

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
peptide recognized by HLA-A2 restricted cytotoxic
T lymphocytes

<400> 180

Ser Leu Phe Trp Leu Leu Gly Gly His Val
1 5 10

<210> 181

<211> 9

<212> PRT

<213> Artificial Sequence

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peptide recognized by HLA-A2 restricted cytotoxic
T lymphocytes

<400> 181

Lys Leu Phe Ala Pro Trp Arg Gly Leu
1 5

<210> 182

<211> 10

<212> PRT

<213> Artificial Sequence

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<223> Description of Artificial Sequence: Synthetic
peptide recognized by HLA-A2 restricted cytotoxic
T lymphocytes

<400> 182

Lys Leu Gly Glu Glu Ser Gly Asp Glu Ile
1 5 10

<210> 183
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 <213> Artificial Sequence

 <220>
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 peptide recognized by HLA-A2 restricted cytotoxic
 T lymphocytes

<400> 183
 Tyr Asp Tyr Asp Gly Tyr Arg Leu Arg Val
 1 5 10

<210> 184
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<220>
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 peptide recognized by HLA-A2 restricted cytotoxic
 T lymphocytes

<400> 184
 Arg Gly Gly Pro Pro Phe Ala Phe Val
 1 5

<210> 185
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 peptide recognized by HLA-A2 restricted cytotoxic
 T lymphocytes

<400> 185
 Thr Leu Gly Asp Ala His Ile Tyr Leu
 1 5

<210> 186
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 peptide recognized by HLA-A2 restricted cytotoxic
 T lymphocytes

<400> 186
 Tyr Met Ile Ala His Ile Thr Gly Leu
 1 5

<210> 187
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<220>
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 peptide recognized by HLA-A2 restricted cytotoxic
 T lymphocytes

<400> 187
 Tyr Leu Asn His Ile Glu Pro Leu Lys Ile
 1 5 10

<210> 188
 <211> 10
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 <213> Artificial Sequence

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 peptide recognized by HLA-A2 restricted cytotoxic
 T lymphocytes

<400> 188
 Leu Met Ala Leu Pro Pro Cys His Ala Leu
 1 5 10

<210> 189
 <211> 9
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<220>
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 peptide recognized by HLA-A2 restricted cytotoxic
 T lymphocytes

<400> 189
 Lys Leu Leu Trp Thr Thr Ser Arg Val
 1 5

<210> 190
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 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Synthetic
 peptide recognized by HLA-A2 restricted cytotoxic
 T lymphocytes

<400> 190
Arg Leu Val Gln Asn Cys Leu Trp Thr Leu
1 5 10

<210> 191
<211> 9
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
peptide recognized by HLA-A2 restricted cytotoxic
T lymphocytes

<400> 191
Val Leu Phe Tyr Ala Ile Thr Thr Leu
1 5

<210> 192
<211> 9
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
peptide recognized by HLA-A2 restricted cytotoxic
T lymphocytes

<400> 192
Ile Met Phe Asp Val Thr Ser Arg Val
1 5

<210> 193
<211> 10
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
peptide recognized by HLA-A2 restricted cytotoxic
T lymphocytes

<400> 193
Leu Thr Gly Glu Phe Glu Lys Lys Tyr Val
1 5 10

<210> 194
<211> 10
<212> PRT
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
peptide recognized by HLA-A2 restricted cytotoxic
T lymphocytes

<400> 194

Ala Leu Tyr Glu Lys Asp Asn Thr Tyr Leu
1 5 10

<210> 195

<211> 10

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
peptide recognized by HLA-A2 restricted cytotoxic
T lymphocytes

<400> 195

Phe Met Ile Leu Ala Ser Pro Arg Tyr Val
1 5 10

<210> 196

<211> 10

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
peptide recognized by HLA-A2 restricted cytotoxic
T lymphocytes

<400> 196

Lys Leu Thr Ser Leu Gln Leu Gln His Leu
1 5 10

<210> 197

<211> 10

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
peptide recognized by HLA-A2 restricted cytotoxic
T lymphocytes

<400> 197

Ser Leu Gln Leu Gln His Leu Phe Met Ile
1 5 10

<210> 198
 <211> 9
 <212> PRT
 <213> Artificial Sequence

 <220>
 <223> Description of Artificial Sequence: Synthetic
 peptide recognized by HLA-A2 restricted cytotoxic
 T lymphocytes

<400> 198
 Gln Val Leu Pro Met Leu Arg Phe Val
 1 5

<210> 199
 <211> 9
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Synthetic
 peptide recognized by HLA-A2 restricted cytotoxic
 T lymphocytes

<400> 199
 Lys Met Val Thr Met Val Ser Val Leu
 1 5

<210> 200
 <211> 9
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Synthetic
 peptide recognized by HLA-A2 restricted cytotoxic
 T lymphocytes

<400> 200
 Ala Leu Phe Lys Cys Tyr Met Phe Leu
 1 5

<210> 201
 <211> 9
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Synthetic
 peptide recognized by HLA-A2 restricted cytotoxic
 T lymphocytes

<400> 201
 Phe Leu Ala Leu Pro Leu Glu Asp Val
 1 5

<210> 202
<211> 10
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
peptide recognized by HLA-A2 restricted cytotoxic
T lymphocytes

<400> 202
Arg Leu Pro Leu Cys Arg Pro Gln Phe Leu
1 5 10

<210> 203
<211> 9
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
peptide recognized by HLA-A2 restricted cytotoxic
T lymphocytes

<400> 203
Leu Met Pro Glu Arg Arg Pro His Leu
1 5

<210> 204
<211> 10
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
peptide recognized by HLA-A2 restricted cytotoxic
T lymphocytes

<400> 204
Phe Leu Gln Leu Gln Ser Ile Lys Asp Ala
1 5 10

<210> 205
<211> 9
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
peptide recognized by HLA-A2 restricted cytotoxic
T lymphocytes

<400> 205

Lys Ile Leu Phe Lys Thr Trp His Leu
1 5

<210> 206

<211> 9

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
peptide recognized by HLA-A2 restricted cytotoxic
T lymphocytes

<400> 206

Ile Leu Phe Lys Thr Trp His Leu Ile
1 5

<210> 207

<211> 9

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
peptide recognized by HLA-A2 restricted cytotoxic
T lymphocytes

<400> 207

Phe Leu Pro Pro Phe Ser Leu Ser Leu
1 5

<210> 208

<211> 10

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
peptide recognized by HLA-A2 restricted cytotoxic
T lymphocytes

<400> 208

Ser Leu Pro Leu Phe Leu Pro Pro Phe Leu
1 5 10

<210> 209

<211> 10

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
peptide recognized by HLA-A2 restricted cytotoxic
T lymphocytes

<400> 209

Gly Leu Tyr Phe Leu Tyr Ser Met Pro Val
1 5 10

<210> 210

<211> 10

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
peptide recognized by HLA-A2 restricted cytotoxic
T lymphocytes

<400> 210

Phe Val Gly Gly His Val Gly Trp Pro Thr
1 5 10

<210> 211

<211> 10

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
peptide recognized by HLA-A2 restricted cytotoxic
T lymphocytes

<400> 211

Arg Leu His Asn Asp Arg Val Tyr Tyr Val
1 5 10

<210> 212

<211> 10

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
peptide recognized by HLA-A2 restricted cytotoxic
T lymphocytes

<400> 212

Tyr Ile Gly Glu Asn Leu Gln Leu Leu Val
1 5 10

<210> 213
 <211> 9
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Synthetic
 peptide recognized by HLA-A2 restricted cytotoxic
 T lymphocytes

<400> 213
 Tyr Val Ser Glu Lys Ile Met Lys Leu
 1 5

<210> 214
 <211> 335
 <212> PRT
 <213> Homo sapiens

<400> 214
 Met Gly Lys Val Lys Val Gly Val Asn Gly Phe Gly Arg Ile Gly Arg
 1 5 10 15
 Leu Val Thr Arg Ala Ala Phe Asn Ser Gly Lys Val Asp Ile Val Ala
 20 25 30
 Ile Asn Asp Pro Phe Ile Asp Leu Asn Tyr Met Val Tyr Met Phe Gln
 35 40 45
 Tyr Asp Ser Thr His Gly Lys Phe His Gly Thr Val Lys Ala Glu Asn
 50 55 60
 Gly Lys Leu Val Ile Asn Gly Asn Pro Ile Thr Ile Phe Gln Glu Arg
 65 70 75 80
 Asp Pro Ser Lys Ile Lys Trp Gly Asp Ala Gly Ala Glu Tyr Val Val
 85 90 95
 Glu Ser Thr Gly Val Phe Thr Thr Met Glu Lys Ala Gly Ala His Leu
 100 105 110
 Gln Gly Gly Ala Lys Arg Val Ile Ile Ser Ala Pro Ser Ala Asp Ala
 115 120 125
 Pro Met Phe Val Met Gly Val Asn His Glu Lys Tyr Asp Asn Ser Leu
 130 135 140
 Lys Ile Ile Ser Asn Ala Ser Cys Thr Thr Asn Cys Leu Ala Pro Leu
 145 150 155 160
 Ala Lys Val Ile His Asp Asn Phe Gly Ile Val Glu Gly Leu Met Thr
 165 170 175
 Thr Val His Ala Ile Thr Ala Thr Gln Lys Thr Val Asp Gly Pro Ser
 180 185 190

Gly Lys Leu Trp Arg Asp Gly Arg Gly Ala Leu Gln Asn Ile Ile Pro
 195 200 205
 Ala Ser Thr Gly Ala Ala Lys Ala Val Gly Lys Val Ile Pro Glu Leu
 210 215 220
 Asn Gly Lys Leu Thr Gly Met Ala Phe Arg Val Pro Thr Ala Asn Val
 225 230 235 240
 Ser Val Val Asp Leu Thr Cys Arg Leu Glu Lys Pro Ala Lys Tyr Asp
 245 250 255
 Asp Ile Lys Lys Val Val Lys Gln Ala Ser Glu Gly Pro Leu Lys Gly
 260 265 270
 Ile Leu Gly Tyr Thr Glu His Gln Val Val Ser Ser Asp Phe Asn Ser
 275 280 285
 Asp Thr His Ser Ser Thr Phe Asp Ala Gly Ala Gly Ile Ala Leu Asn
 290 295 300
 Asp His Phe Val Lys Leu Ile Ser Trp Tyr Asp Asn Glu Phe Gly Tyr
 305 310 315 320
 Ser Asn Arg Val Val Asp Leu Met Ala His Met Ala Ser Lys Glu
 325 330 335

<210> 215

<211> 599

<212> PRT

<213> Homo sapiens

<400> 215

Met Ala Asp Lys Leu Thr Arg Ile Ala Ile Val Asn His Asp Lys Cys
 1 5 10 15
 Lys Pro Lys Lys Cys Arg Gln Glu Cys Lys Lys Ser Cys Pro Val Val
 20 25 30
 Arg Met Gly Lys Leu Cys Ile Glu Val Thr Pro Gln Ser Lys Ile Ala
 35 40 45
 Trp Ile Ser Glu Thr Leu Cys Ile Gly Cys Gly Ile Cys Ile Lys Lys
 50 55 60
 Cys Pro Phe Gly Ala Leu Ser Ile Val Asn Leu Pro Ser Asn Leu Glu
 65 70 75 80
 Lys Glu Thr Thr His Arg Tyr Cys Ala Asn Ala Phe Lys Leu His Arg
 85 90 95
 Leu Pro Ile Pro Arg Pro Gly Glu Val Leu Gly Leu Val Gly Thr Asn
 100 105 110
 Gly Ile Gly Lys Ser Thr Ala Leu Lys Ile Leu Ala Gly Lys Gln Lys
 115 120 125

Pro Asn Leu Gly Lys Tyr Asp Asp Pro Pro Asp Trp Gln Glu Ile Leu
 130 135 140
 Thr Tyr Phe Arg Gly Ser Glu Leu Gln Asn Tyr Phe Thr Lys Ile Leu
 145 150 155 160
 Glu Asp Asp Leu Lys Ala Ile Ile Lys Pro Gln Tyr Val Asp Gln Ile
 165 170 175
 Pro Lys Ala Ala Lys Gly Thr Val Gly Ser Ile Leu Asp Arg Lys Asp
 180 185 190
 Glu Thr Lys Thr Gln Ala Ile Val Cys Gln Gln Leu Asp Leu Thr His
 195 200 205
 Leu Lys Glu Arg Asn Val Glu Asp Leu Ser Gly Gly Glu Leu Gln Arg
 210 215 220
 Phe Ala Cys Ala Val Val Cys Ile Gln Lys Ala Asp Ile Phe Met Phe
 225 230 235 240
 Asp Glu Pro Ser Ser Tyr Leu Asp Val Lys Gln Arg Leu Lys Ala Ala
 245 250 255
 Ile Thr Ile Arg Ser Leu Ile Asn Pro Asp Arg Tyr Ile Ile Val Val
 260 265 270
 Glu His Asp Leu Ser Val Leu Asp Tyr Leu Ser Asp Phe Ile Cys Cys
 275 280 285
 Leu Tyr Gly Val Pro Ser Ala Tyr Gly Val Val Thr Met Pro Phe Ser
 290 295 300
 Val Arg Glu Gly Ile Asn Ile Phe Leu Asp Gly Tyr Val Pro Thr Glu
 305 310 315 320
 Asn Leu Arg Phe Arg Asp Ala Ser Leu Val Phe Lys Val Ala Glu Thr
 325 330 335
 Ala Asn Glu Glu Glu Val Lys Lys Met Cys Met Tyr Lys Tyr Pro Gly
 340 345 350
 Met Lys Lys Lys Met Gly Glu Phe Glu Leu Ala Ile Val Ala Gly Glu
 355 360 365
 Phe Thr Asp Ser Glu Ile Met Val Met Leu Gly Glu Asn Gly Thr Gly
 370 375 380
 Lys Thr Thr Phe Ile Arg Met Leu Ala Gly Arg Leu Lys Pro Asp Glu
 385 390 395 400
 Gly Gly Glu Val Pro Val Leu Asn Val Ser Tyr Lys Pro Gln Lys Ile
 405 410 415
 Ser Pro Lys Ser Thr Gly Ser Val Arg Gln Leu Leu His Glu Lys Ile
 420 425 430

Arg Asp Ala Tyr Thr His Pro Gln Phe Val Thr Asp Val Met Lys Pro
 435 440 445
 Leu Gln Ile Glu Asn Ile Ile Asp Gln Glu Val Gln Thr Leu Ser Gly
 450 455 460
 Gly Glu Leu Gln Arg Val Ala Leu Ala Leu Cys Leu Gly Lys Pro Ala
 465 470 475 480
 Asp Val Tyr Leu Ile Asp Glu Pro Ser Ala Tyr Leu Asp Ser Glu Gln
 485 490 495
 Arg Leu Met Ala Ala Arg Val Val Lys Arg Phe Ile Leu His Ala Lys
 500 505 510
 Lys Thr Ala Phe Val Val Glu His Asp Phe Ile Met Ala Thr Tyr Leu
 515 520 525
 Ala Asp Arg Val Ile Val Phe Asp Gly Val Pro Ser Lys Asn Thr Val
 530 535 540
 Ala Asn Ser Pro Gln Thr Leu Leu Ala Gly Met Asn Lys Phe Leu Ser
 545 550 555 560
 Gln Leu Glu Ile Thr Phe Arg Arg Asp Pro Asn Asn Tyr Arg Pro Arg
 565 570 575
 Ile Asn Lys Leu Asn Ser Ile Lys Asp Val Glu Gln Lys Lys Ser Gly
 580 585 590
 Asn Tyr Phe Phe Leu Asp Asp
 595

<210> 216
 <211> 101
 <212> PRT
 <213> Homo sapiens

<400> 216
 Met Ser Asp Gln Glu Ala Lys Pro Ser Thr Glu Asp Leu Gly Asp Lys
 1 5 10 15
 Lys Glu Gly Glu Tyr Ile Lys Leu Lys Val Ile Gly Gln Asp Ser Ser
 20 25 30
 Glu Ile His Phe Lys Val Lys Met Thr Thr His Leu Lys Lys Leu Lys
 35 40 45
 Glu Ser Tyr Cys Gln Arg Gln Gly Val Pro Met Asn Ser Leu Arg Phe
 50 55 60
 Leu Phe Glu Gly Gln Arg Ile Ala Asp Asn His Thr Pro Lys Glu Leu
 65 70 75 80
 Gly Met Glu Glu Glu Asp Val Ile Glu Val Tyr Gln Glu Gln Thr Gly
 85 90 95

Gly His Ser Thr Val
100

<210> 217
<211> 249
<212> PRT
<213> Homo sapiens

<400> 217
Met Lys Leu Asn Ile Ser Phe Pro Ala Thr Gly Cys Gln Lys Leu Ile
1 5 10 15
Glu Val Asp Asp Glu Arg Lys Leu Arg Thr Phe Tyr Glu Lys Arg Met
20 25 30
Ala Thr Glu Val Ala Ala Asp Ala Leu Gly Glu Glu Trp Lys Gly Tyr
35 40 45
Val Val Arg Ile Ser Gly Gly Asn Asp Lys Gln Gly Phe Pro Met Lys
50 55 60
Gln Gly Val Leu Thr His Gly Arg Val Arg Leu Leu Leu Ser Lys Gly
65 70 75 80
His Ser Cys Tyr Arg Pro Arg Arg Thr Gly Glu Arg Lys Arg Lys Ser
85 90 95
Val Arg Gly Cys Ile Val Asp Ala Asn Leu Ser Val Leu Asn Leu Val
100 105 110
Ile Val Lys Lys Gly Glu Lys Asp Ile Pro Gly Leu Thr Asp Thr Thr
115 120 125
Val Pro Arg Arg Leu Gly Pro Lys Arg Ala Ser Arg Ile Arg Lys Leu
130 135 140
Phe Asn Leu Ser Lys Glu Asp Asp Val Arg Gln Tyr Val Val Arg Lys
145 150 155 160
Pro Leu Asn Lys Glu Gly Lys Lys Pro Arg Thr Lys Ala Pro Lys Ile
165 170 175
Gln Arg Leu Val Thr Pro Arg Val Leu Gln His Lys Arg Arg Arg Ile
180 185 190
Ala Leu Lys Lys Gln Arg Thr Lys Lys Asn Lys Glu Glu Ala Ala Glu
195 200 205
Tyr Ala Lys Leu Leu Ala Lys Arg Met Lys Glu Ala Lys Glu Lys Arg
210 215 220
Gln Glu Gln Ile Ala Lys Arg Arg Arg Leu Ser Ser Leu Arg Ala Ser
225 230 235 240
Thr Ser Lys Ser Glu Ser Ser Gln Lys
245

<210> 218
 <211> 184
 <212> PRT
 <213> Homo sapiens

<400> 218
 Met Arg Glu Tyr Lys Leu Val Val Leu Gly Ser Gly Gly Val Gly Lys
 1 5 10 15
 Ser Ala Leu Thr Val Gln Phe Val Gln Gly Ile Phe Val Glu Lys Tyr
 20 25 30
 Asp Pro Thr Ile Glu Asp Ser Tyr Arg Lys Gln Val Glu Val Asp Ala
 35 40 45
 Gln Gln Cys Met Leu Glu Ile Leu Asp Thr Ala Gly Thr Glu Gln Phe
 50 55 60
 Thr Ala Met Arg Asp Leu Tyr Met Lys Asn Gly Gln Gly Phe Ala Leu
 65 70 75 80
 Val Tyr Ser Ile Thr Ala Gln Ser Thr Phe Asn Asp Leu Gln Asp Leu
 85 90 95
 Arg Glu Gln Ile Leu Arg Val Lys Asp Thr Asp Asp Val Pro Met Ile
 100 105 110
 Leu Val Gly Asn Lys Cys Asp Leu Glu Asp Glu Arg Val Val Gly Lys
 115 120 125
 Glu Gln Gly Gln Asn Leu Ala Arg Gln Trp Asn Asn Cys Ala Phe Leu
 130 135 140
 Glu Ser Ser Ala Lys Ser Lys Ile Asn Val Asn Glu Ile Phe Tyr Asp
 145 150 155 160
 Leu Val Arg Gln Ile Asn Arg Lys Thr Pro Val Pro Gly Lys Ala Arg
 165 170 175
 Lys Lys Ser Ser Cys Gln Leu Leu
 180

<210> 219
 <211> 162
 <212> PRT
 <213> Homo sapiens

<400> 219
 Met Lys Glu Thr Ile Met Asn Gln Glu Lys Leu Ala Lys Leu Gln Ala
 1 5 10 15
 Gln Val Arg Ile Gly Gly Lys Gly Thr Ala Arg Arg Lys Lys Lys Val
 20 25 30
 Val His Arg Thr Ala Thr Ala Asp Asp Lys Lys Leu Gln Phe Ser Leu
 35 40 45

Lys Lys Leu Gly Val Asn Asn Ile Ser Gly Ile Glu Glu Val Asn Met
 50 55 60

Phe Thr Asn Gln Gly Thr Val Ile His Phe Asn Asn Pro Lys Val Gln
 65 70 75 80

Ala Ser Leu Ala Ala Asn Thr Phe Thr Ile Thr Gly His Ala Glu Thr
 85 90 95

Lys Gln Leu Thr Glu Met Leu Pro Ser Ile Leu Asn Gln Leu Gly Ala
 100 105 110

Asp Ser Leu Thr Ser Leu Arg Arg Leu Ala Glu Ala Leu Pro Lys Gln
 115 120 125

Ser Val Asp Gly Lys Ala Pro Leu Ala Thr Gly Glu Asp Asp Asp Asp
 130 135 140

Glu Val Pro Asp Leu Val Glu Asn Phe Asp Glu Ala Ser Lys Asn Glu
 145 150 155 160

Ala Asn

<210> 220

<211> 180

<212> PRT

<213> Homo sapiens

<400> 220

Met Arg Pro Leu Thr Glu Glu Glu Thr Arg Val Met Phe Glu Lys Ile
 1 5 10 15

Ala Lys Tyr Ile Gly Glu Asn Leu Gln Leu Leu Val Asp Arg Pro Asp
 20 25 30

Gly Thr Tyr Cys Phe Arg Leu His Asn Asp Arg Val Tyr Tyr Val Ser
 35 40 45

Glu Lys Ile Met Lys Leu Ala Ala Asn Ile Ser Gly Asp Lys Leu Val
 50 55 60

Ser Leu Gly Thr Cys Phe Gly Lys Phe Thr Lys Thr His Lys Phe Arg
 65 70 75 80

Leu His Val Thr Ala Leu Asp Tyr Leu Ala Pro Tyr Ala Lys Tyr Lys
 85 90 95

Val Trp Ile Lys Pro Gly Ala Glu Gln Ser Phe Leu Tyr Gly Asn His
 100 105 110

Val Leu Lys Ser Gly Leu Gly Arg Ile Thr Glu Asn Thr Ser Gln Tyr
 115 120 125

Gln Gly Val Val Val Tyr Ser Met Ala Asp Ile Pro Leu Gly Phe Gly
 130 135 140

Val Ala Ala Lys Ser Thr Gln Asp Cys Arg Lys Val Asp Pro Met Ala
145 150 155 160

Ile Val Val Phe His Gln Ala Asp Ile Gly Glu Tyr Val Arg His Glu
165 170 175

Glu Thr Leu Thr
180

<210> 221

<211> 166

<212> PRT

<213> Homo sapiens

<400> 221

Met Ala Ala Thr Met Phe Arg Ala Thr Leu Arg Gly Trp Arg Thr Gly
1 5 10 15

Val Gln Arg Gly Cys Gly Leu Arg Leu Leu Ser Gln Thr Gln Gly Pro
20 25 30

Pro Asp Tyr Pro Arg Phe Val Glu Ser Val Asp Glu Tyr Gln Phe Val
35 40 45

Glu Arg Leu Leu Pro Ala Thr Arg Ile Pro Asp Pro Pro Lys His Glu
50 55 60

His Tyr Pro Thr Pro Ser Gly Trp Gln Pro Pro Arg Asp Pro Pro Pro
65 70 75 80

Asn Leu Pro Tyr Phe Val Arg Arg Ser Arg Met His Asn Ile Pro Val
85 90 95

Tyr Lys Asp Ile Thr His Gly Asn Arg Gln Met Thr Val Ile Arg Lys
100 105 110

Val Glu Gly Asp Ile Trp Ala Leu Gln Lys Asp Val Glu Asp Phe Leu
115 120 125

Ser Pro Leu Leu Gly Lys Thr Pro Val Thr Gln Val Asn Glu Val Thr
130 135 140

Gly Thr Leu Arg Ile Lys Gly Tyr Phe Asp Gln Glu Leu Lys Ala Trp
145 150 155 160

Leu Leu Glu Lys Gly Phe
165

<210> 222

<211> 194

<212> PRT

<213> Homo sapiens

<400> 222

Met Ala Ala Ser Leu Val Gly Lys Lys Ile Val Phe Val Thr Gly Asn
 1 5 10 15
 Ala Lys Lys Leu Glu Glu Val Val Gln Ile Leu Gly Asp Lys Phe Pro
 20 25 30
 Cys Thr Leu Val Ala Gln Lys Ile Asp Leu Pro Glu Tyr Gln Gly Glu
 35 40 45
 Pro Asp Glu Ile Ser Ile Gln Lys Cys Gln Glu Ala Val Arg Gln Val
 50 55 60
 Gln Gly Pro Val Leu Val Glu Asp Thr Cys Leu Cys Phe Asn Ala Leu
 65 70 75 80
 Gly Gly Leu Pro Gly Pro Tyr Ile Lys Trp Phe Leu Glu Lys Leu Lys
 85 90 95
 Pro Glu Gly Leu His Gln Leu Leu Ala Gly Phe Glu Asp Lys Ser Ala
 100 105 110
 Tyr Ala Leu Cys Thr Phe Ala Leu Ser Thr Gly Asp Pro Ser Gln Pro
 115 120 125
 Val Arg Leu Phe Arg Gly Arg Thr Ser Gly Arg Ile Val Ala Pro Arg
 130 135 140
 Gly Cys Gln Asp Phe Gly Trp Asp Pro Cys Phe Gln Pro Asp Gly Tyr
 145 150 155 160
 Glu Gln Thr Tyr Ala Glu Met Pro Lys Ala Glu Lys Asn Ala Val Ser
 165 170 175
 His Arg Phe Arg Ala Leu Leu Glu Leu Gln Glu Tyr Phe Gly Ser Leu
 180 185 190
 Ala Ala

<210> 223

<211> 466

<212> PRT

<213> Homo sapiens

<400> 223

Met Ser Tyr Pro Gly Tyr Pro Pro Thr Gly Tyr Pro Pro Phe Pro Gly
 1 5 10 15
 Tyr Pro Pro Ala Gly Gln Glu Ser Ser Phe Pro Pro Ser Gly Gln Tyr
 20 25 30
 Pro Tyr Pro Ser Gly Phe Pro Pro Met Gly Gly Gly Ala Tyr Pro Gln
 35 40 45
 Val Pro Ser Ser Gly Tyr Pro Gly Ala Gly Gly Tyr Pro Ala Pro Gly
 50 55 60

Gly Tyr Pro Ala Pro Gly Gly Tyr Pro Gly Ala Pro Gln Pro Gly Gly
 65 70 75 80
 Ala Pro Ser Tyr Pro Gly Val Pro Pro Gly Gln Gly Phe Gly Val Pro
 85 90 95
 Pro Gly Gly Ala Gly Phe Ser Gly Tyr Pro Gln Pro Pro Ser Gln Ser
 100 105 110
 Tyr Gly Gly Gly Pro Ala Gln Val Pro Leu Pro Gly Gly Phe Pro Gly
 115 120 125
 Gly Gln Met Pro Ser Gln Tyr Pro Gly Gly Gln Pro Thr Tyr Pro Ser
 130 135 140
 Gln Pro Ala Thr Val Thr Gln Val Thr Gln Gly Thr Ile Arg Pro Ala
 145 150 155 160
 Ala Asn Phe Asp Ala Ile Arg Asp Ala Glu Ile Leu Arg Lys Ala Met
 165 170 175
 Lys Gly Phe Gly Thr Asp Glu Gln Ala Ile Val Asp Val Val Ala Asn
 180 185 190
 Arg Ser Asn Asp Gln Arg Gln Lys Ile Lys Ala Ala Phe Lys Thr Ser
 195 200 205
 Tyr Gly Lys Asp Leu Ile Lys Asp Leu Lys Ser Glu Leu Ser Gly Asn
 210 215 220
 Met Glu Glu Leu Ile Leu Ala Leu Phe Met Pro Pro Thr Tyr Tyr Asp
 225 230 235 240
 Ala Trp Ser Leu Arg Lys Ala Met Gln Gly Ala Gly Thr Gln Glu Arg
 245 250 255
 Val Leu Ile Glu Ile Leu Cys Thr Arg Thr Asn Gln Glu Ile Arg Glu
 260 265 270
 Ile Val Arg Cys Tyr Gln Ser Glu Phe Gly Arg Asp Leu Glu Lys Asp
 275 280 285
 Ile Arg Ser Asp Thr Ser Gly His Phe Glu Arg Leu Leu Val Ser Met
 290 295 300
 Cys Gln Gly Asn Arg Asp Glu Asn Gln Ser Ile Asn His Gln Met Ala
 305 310 315 320
 Gln Glu Asp Ala Gln Arg Leu Tyr Gln Ala Gly Glu Gly Arg Leu Gly
 325 330 335
 Thr Asp Glu Ser Cys Phe Asn Met Ile Leu Ala Thr Arg Ser Phe Pro
 340 345 350
 Gln Leu Arg Ala Thr Met Glu Ala Tyr Ser Arg Met Ala Asn Arg Asp
 355 360 365

Leu Leu Ser Ser Val Ser Arg Glu Phe Ser Gly Tyr Val Glu Ser Gly
 370 375 380
 Leu Lys Thr Ile Leu Gln Cys Ala Leu Asn Arg Pro Ala Phe Phe Ala
 385 390 395 400
 Glu Arg Leu Tyr Tyr Ala Met Lys Gly Ala Gly Thr Asp Asp Ser Thr
 405 410 415
 Leu Val Arg Ile Val Val Thr Arg Ser Glu Ile Asp Leu Val Gln Ile
 420 425 430
 Lys Gln Met Phe Ala Gln Met Tyr Gln Lys Thr Leu Gly Thr Met Ile
 435 440 445
 Ala Gly Asp Thr Ser Gly Asp Tyr Arg Arg Leu Leu Leu Ala Ile Val
 450 455 460
 Gly Gln
 465

<210> 224
 <211> 130
 <212> PRT
 <213> Homo sapiens

<400> 224
 Met Val Arg Met Asn Val Leu Ala Asp Ala Leu Lys Ser Ile Asn Asn
 1 5 10 15
 Ala Glu Lys Arg Gly Lys Arg Gln Val Leu Ile Arg Pro Cys Ser Lys
 20 25 30
 Val Ile Val Arg Phe Leu Thr Val Met Met Lys His Gly Tyr Ile Gly
 35 40 45
 Glu Phe Glu Ile Ile Asp Asp His Arg Ala Gly Lys Ile Val Val Asn
 50 55 60
 Leu Thr Gly Arg Leu Asn Lys Cys Gly Val Ile Ser Pro Arg Phe Asp
 65 70 75 80
 Val Gln Leu Lys Asp Leu Glu Lys Trp Gln Asn Asn Leu Leu Pro Ser
 85 90 95
 Arg Gln Phe Gly Phe Ile Val Leu Thr Thr Ser Ala Gly Ile Met Asp
 100 105 110
 His Glu Glu Ala Arg Arg Lys His Thr Gly Gly Lys Ile Leu Gly Phe
 115 120 125
 Phe Phe
 130

<210> 225
 <211> 192
 <212> PRT
 <213> Homo sapiens

<400> 225
 Met Lys Thr Ile Leu Ser Asn Gln Thr Val Asp Ile Pro Glu Asn Val
 1 5 10 15
 Asp Ile Thr Leu Lys Gly Arg Thr Val Ile Val Lys Gly Pro Arg Gly
 20 25 30
 Thr Leu Arg Arg Asp Phe Asn His Ile Asn Val Glu Leu Ser Leu Leu
 35 40 45
 Gly Lys Lys Lys Lys Arg Leu Arg Val Asp Lys Trp Trp Gly Asn Arg
 50 55 60
 Lys Glu Leu Ala Thr Val Arg Thr Ile Cys Ser His Val Gln Asn Met
 65 70 75 80
 Ile Lys Gly Val Thr Leu Gly Phe Arg Tyr Lys Met Arg Ser Val Tyr
 85 90 95
 Ala His Phe Pro Ile Asn Val Val Ile Gln Glu Asn Gly Ser Leu Val
 100 105 110
 Glu Ile Arg Asn Phe Leu Gly Glu Lys Tyr Ile Arg Arg Val Arg Met
 115 120 125
 Arg Pro Gly Val Ala Cys Ser Val Ser Gln Ala Gln Lys Asp Glu Leu
 130 135 140
 Ile Leu Glu Gly Asn Asp Ile Glu Leu Val Ser Asn Ser Ala Ala Leu
 145 150 155 160
 Ile Gln Gln Ala Thr Thr Val Lys Asn Lys Asp Ile Arg Lys Phe Leu
 165 170 175
 Asp Gly Ile Tyr Val Ser Glu Lys Gly Thr Val Gln Gln Ala Asp Glu
 180 185 190

<210> 226
 <211> 67
 <212> PRT
 <213> Homo sapiens

<400> 226
 Met Leu Leu Tyr Ile Asn Arg Ala Arg Pro Glu Gly Gly Arg Gly Ala
 1 5 10 15
 Gly Ala Glu Gly Arg Ser Asn Gln Ile Ser Asn Phe Leu Leu Ile Ile
 20 25 30

70

Asn Pro Leu Phe Thr Ala Val Ser Val Val Ile Phe Lys Ile Phe Leu
35 40 45
Ile Phe Phe Phe Phe Leu Leu Leu Leu Phe Thr Ser Cys Val Tyr Val
50 55 60
Gly Asn Leu
65

<210> 227
<211> 66
<212> PRT
<213> Homo sapiens

<400> 227
Met His Phe His Asn Ile Cys Leu Leu Glu Arg Ser Ile Ile Ser Glu
1 5 10 15
Lys Tyr Gln Val Phe Ile Lys Phe Leu Gly Met Ala Asp Ser Gln Asn
20 25 30
Met Leu Val Ser Leu Gln Tyr Ser Ser Arg Arg Ala Asn Gln Gly Arg
35 40 45
Ala Gly Met Arg Ser Asp Ile Cys Val Thr Lys Ser Ile Phe Leu Ile
50 55 60
Ser Leu
65

<210> 228
<211> 145
<212> PRT
<213> Homo sapiens

<400> 228
Met Ile Leu Gln Cys Ser Ile Glu Met Pro Asn Ile Ser Tyr Ala Trp
1 5 10 15
Lys Glu Leu Lys Glu Gln Leu Gly Glu Glu Ile Asp Ser Lys Val Lys
20 25 30
Gly Met Val Phe Leu Lys Gly Lys Leu Gly Val Cys Phe Asp Val Pro
35 40 45
Thr Ala Ser Val Thr Glu Ile Gln Glu Lys Trp His Asp Ser Arg Arg
50 55 60
Trp Gln Leu Ser Val Ala Thr Glu Gln Pro Glu Leu Glu Gly Pro Arg
65 70 75 80
Glu Gly Tyr Gly Gly Phe Arg Gly Gln Arg Glu Gly Ser Arg Gly Phe
85 90 95
Arg Gly Gln Arg Asp Gly Asn Arg Arg Phe Arg Gly Gln Arg Glu Gly
100 105 110

Ser Arg Gly Pro Arg Gly Gln Arg Ser Gly Gly Gly Asn Lys Ser Asn
 115 120 125

Arg Ser Gln Asn Lys Gly Gln Lys Arg Ser Phe Ser Lys Ala Phe Gly
 130 135 140

Gln
 145

<210> 229
 <211> 49
 <212> PRT
 <213> Homo sapiens

<400> 229
 Met Arg Asn Ser Ala Thr Phe Lys Ser Phe Glu Asp Arg Val Gly Thr
 1 5 10 15

Ile Lys Ser Lys Val Val Gly Asp Arg Glu Asn Gly Ser Asp Asn Leu
 20 25 30

Pro Ser Ser Ala Gly Ser Gly Asp Lys Pro Leu Ser Asp Pro Ala Pro
 35 40 45

Phe

<210> 230
 <211> 208
 <212> PRT
 <213> Homo sapiens

<400> 230
 Met Gly Ile Ser Arg Asp Asn Trp His Lys Arg Arg Lys Thr Gly Gly
 1 5 10 15

Lys Arg Lys Pro Tyr His Lys Lys Arg Lys Tyr Glu Leu Gly Arg Pro
 20 25 30

Ala Ala Asn Thr Lys Ile Gly Pro Arg Arg Ile His Thr Val Arg Val
 35 40 45

Arg Gly Gly Asn Lys Lys Tyr Arg Ala Leu Arg Leu Asp Val Gly Asn
 50 55 60

Phe Ser Trp Gly Ser Glu Cys Cys Thr Arg Lys Thr Arg Ile Ile Asp
 65 70 75 80

Val Val Tyr Asn Ala Ser Asn Asn Glu Leu Val Arg Thr Lys Thr Leu
 85 90 95

Val Lys Asn Cys Ile Val Leu Ile Asp Ser Thr Pro Tyr Arg Gln Trp
 100 105 110

Tyr	Glu	Ser	His	Tyr	Ala	Leu	Pro	Leu	Gly	Arg	Lys	Lys	Gly	Ala	Lys
		115					120					125			
Leu	Thr	Pro	Glu	Glu	Glu	Glu	Ile	Leu	Asn	Lys	Lys	Arg	Ser	Lys	Lys
	130					135					140				
Ile	Gln	Lys	Lys	Tyr	Asp	Glu	Arg	Lys	Lys	Asn	Ala	Lys	Ile	Ser	Ser
145					150					155					160
Leu	Leu	Glu	Glu	Gln	Phe	Gln	Gln	Gly	Lys	Leu	Leu	Ala	Cys	Ile	Ala
				165					170					175	
Ser	Arg	Pro	Gly	Gln	Cys	Gly	Arg	Ala	Asp	Gly	Tyr	Val	Leu	Glu	Gly
			180					185					190		
Lys	Glu	Leu	Glu	Phe	Tyr	Leu	Arg	Lys	Ile	Lys	Ala	Arg	Lys	Gly	Lys
		195					200					205			

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<210> 231
<211> 183
<212> PRT
<213> Homo sapiens
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<400> 231																
Met	Thr	Thr	Ala	Ser	Thr	Ser	Gln	Val	Arg	Gln	Asn	Tyr	His	Gln	Asp	
1				5					10					15		
Ser	Glu	Ala	Ala	Ile	Asn	Arg	Gln	Ile	Asn	Leu	Glu	Leu	Tyr	Ala	Ser	
			20					25					30			
Tyr	Val	Tyr	Leu	Ser	Met	Ser	Tyr	Tyr	Phe	Asp	Arg	Asp	Asp	Val	Ala	
		35					40					45				
Leu	Lys	Asn	Phe	Ala	Lys	Tyr	Phe	Leu	His	Gln	Ser	His	Glu	Glu	Arg	
	50					55					60					
Glu	His	Ala	Glu	Lys	Leu	Met	Lys	Leu	Gln	Asn	Gln	Arg	Gly	Gly	Arg	
65					70					75					80	
Ile	Phe	Leu	Gln	Asp	Ile	Lys	Lys	Pro	Asp	Cys	Asp	Asp	Trp	Glu	Ser	
				85					90					95		
Gly	Leu	Asn	Ala	Met	Glu	Cys	Ala	Leu	His	Leu	Glu	Lys	Asn	Val	Asn	
			100					105					110			
Gln	Ser	Leu	Leu	Glu	Leu	His	Lys	Leu	Ala	Thr	Asp	Lys	Asn	Asp	Pro	
		115					120					125				
His	Leu	Cys	Asp	Phe	Ile	Glu	Thr	His	Tyr	Leu	Asn	Glu	Gln	Val	Lys	
	130					135					140					
Ala	Ile	Lys	Glu	Leu	Gly	Asp	His	Val	Thr	Asn	Leu	Arg	Lys	Met	Gly	
145					150					155					160	

Ala Pro Glu Ser Gly Leu Ala Glu Tyr Leu Phe Asp Lys His Thr Leu
 165 170 175

Gly Asp Ser Asp Asn Glu Ser
 180

<210> 232

<211> 403

<212> PRT

<213> Homo sapiens

<400> 232

Met Ser His Arg Lys Phe Ser Ala Pro Arg His Gly Ser Leu Gly Phe
 1 5 10 15

Leu Pro Arg Lys Arg Ser Ser Arg His Arg Gly Lys Val Lys Ser Phe
 20 25 30

Pro Lys Asp Asp Pro Ser Lys Pro Val His Leu Thr Ala Phe Leu Gly
 35 40 45

Tyr Lys Ala Gly Met Thr His Ile Val Arg Glu Val Asp Arg Pro Gly
 50 55 60

Ser Lys Val Asn Lys Lys Glu Val Val Glu Ala Val Thr Ile Val Glu
 65 70 75 80

Thr Pro Pro Met Val Val Val Gly Ile Val Gly Tyr Val Glu Thr Pro
 85 90 95

Arg Gly Leu Arg Thr Phe Lys Thr Val Phe Ala Glu His Ile Ser Asp
 100 105 110

Glu Cys Lys Arg Arg Phe Tyr Lys Asn Trp His Lys Ser Lys Lys Lys
 115 120 125

Ala Phe Thr Lys Tyr Cys Lys Lys Trp Gln Asp Glu Asp Gly Lys Lys
 130 135 140

Gln Leu Glu Lys Asp Phe Ser Ser Met Lys Lys Tyr Cys Gln Val Ile
 145 150 155 160

Arg Val Ile Ala His Thr Gln Met Arg Leu Leu Pro Leu Arg Gln Lys
 165 170 175

Lys Ala His Leu Met Glu Ile Gln Val Asn Gly Gly Thr Val Ala Glu
 180 185 190

Lys Leu Asp Trp Ala Arg Glu Arg Leu Glu Gln Gln Val Pro Val Asn
 195 200 205

Gln Val Phe Gly Gln Asp Glu Met Ile Asp Val Ile Gly Val Thr Lys
 210 215 220

Gly Lys Gly Tyr Lys Gly Val Thr Ser Arg Trp His Thr Lys Lys Leu
 225 230 235 240

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<210> 233
<211> 480
<212> PRT
<213> Homo sapiens
```

Met Ala Val Ala Arg Ala Ala Leu Gly Pro Leu Val Thr Gly Leu Tyr
1 5 10 15

Ser Ser Pro Ile Tyr Ile Asp Leu Arg Gly Ile Val Ser Arg Pro Arg
35 40 45

Leu Leu Ser Gln Val Ala Asp Ile Leu Phe Gln Thr Ala Gln Asn Ala
50 55 60

Gly Ile Ser Phe Asp Thr Val Cys Gly Val Pro Tyr Thr Ala Leu Pro
65 70 75 80

Leu Ala Thr Val Ile Cys Ser Thr Asn Gln Ile Pro Met Leu Ile Arg
85 90 95

Arg Lys Glu Thr Lys Asp Tyr Gly Thr Lys Arg Leu Val Glu Gly Thr
 100 105 110
 Ile Asn Pro Gly Glu Thr Cys Leu Ile Ile Glu Asp Val Val Thr Ser
 115 120 125
 Gly Ser Ser Val Leu Glu Thr Val Glu Val Leu Gln Lys Glu Gly Leu
 130 135 140
 Lys Val Thr Asp Ala Ile Val Leu Leu Asp Arg Glu Gln Gly Gly Lys
 145 150 155 160
 Asp Lys Leu Gln Ala His Gly Ile Arg Leu His Ser Val Cys Thr Leu
 165 170 175
 Ser Lys Met Leu Glu Ile Leu Glu Gln Gln Lys Lys Val Asp Ala Glu
 180 185 190
 Thr Val Gly Arg Val Lys Arg Phe Ile Gln Glu Asn Val Phe Val Ala
 195 200 205
 Ala Asn His Asn Gly Ser Pro Leu Ser Ile Lys Glu Ala Pro Lys Glu
 210 215 220
 Leu Ser Phe Gly Ala Arg Ala Glu Leu Pro Arg Ile His Pro Val Ala
 225 230 235 240
 Ser Lys Leu Leu Arg Leu Met Gln Lys Lys Glu Thr Asn Leu Cys Leu
 245 250 255
 Ser Ala Asp Val Ser Leu Ala Arg Glu Leu Leu Gln Leu Ala Asp Ala
 260 265 270
 Leu Gly Pro Ser Ile Cys Met Leu Lys Thr His Val Asp Ile Leu Asn
 275 280 285
 Asp Phe Thr Leu Asp Val Met Lys Glu Leu Ile Thr Leu Ala Lys Cys
 290 295 300
 His Glu Phe Leu Ile Phe Glu Asp Arg Lys Phe Ala Asp Ile Gly Asn
 305 310 315 320
 Thr Val Lys Lys Gln Tyr Glu Gly Gly Ile Phe Lys Ile Ala Ser Trp
 325 330 335
 Ala Asp Leu Val Asn Ala His Val Val Pro Gly Ser Gly Val Val Lys
 340 345 350
 Gly Leu Gln Glu Val Gly Leu Pro Leu His Arg Gly Cys Leu Leu Ile
 355 360 365
 Ala Glu Met Ser Ser Thr Gly Ser Leu Ala Thr Gly Asp Tyr Thr Arg
 370 375 380
 Ala Ala Val Arg Met Ala Glu Glu His Ser Glu Phe Val Val Gly Phe
 385 390 395 400

Ile	Ser	Gly	Ser	Arg	Val	Ser	Met	Lys	Pro	Glu	Phe	Leu	His	Leu	Thr
				405					410					415	
Pro	Gly	Val	Gln	Leu	Glu	Ala	Gly	Gly	Asp	Asn	Leu	Gly	Gln	Gln	Tyr
			420					425					430		
Asn	Ser	Pro	Gln	Glu	Val	Ile	Gly	Lys	Arg	Gly	Ser	Asp	Ile	Ile	Ile
		435					440					445			
Val	Gly	Arg	Gly	Ile	Ile	Ser	Ala	Ala	Asp	Arg	Leu	Glu	Ala	Ala	Glu
	450					455					460				
Met	Tyr	Arg	Lys	Ala	Ala	Trp	Glu	Ala	Tyr	Leu	Ser	Arg	Leu	Gly	Val
465					470					475					480

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<210> 234
<211> 86
<212> PRT
<213> Homo sapiens
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<400> 234
Met Tyr Leu Tyr Leu Ile Ser Ser Cys Ile Lys Pro Ile Asn Leu Cys
  1                               5                               10                               15

Tyr Cys Ser Ser Asn Leu Met His Thr Val Ile Ser Cys Tyr Ile Cys
                20                               25                               30

Lys Val Gly Asn Cys Phe Leu Ser Tyr Arg Ser Phe Lys Leu His Phe
                35                               40                               45

Cys Ala Val Glu Thr Lys Val Gly Tyr Ser Leu Cys His Val Asp Val
  50                               55                               60

Gln Phe Leu Lys Leu Phe Tyr Lys Thr Leu Ile Ile Lys Pro Leu Asn
  65                               70                               75                               80

Leu Lys Lys Lys Lys Lys
                85

```

```
<210> 235
<211> 54
<212> PRT
<213> Homo sapiens
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```

<400> 235
Met  Leu  Cys  Gly  Asn  Ile  Tyr  Pro  Ile  Asp  His  Pro  Ile  Leu  Met  Cys
      1              5              10              15

Leu  Trp  Leu  Ser  Asp  Gln  Leu  Gln  Asn  Asn  Cys  Val  Val  Ile  Leu  Cys
      20              25              30

Pro  Lys  Leu  Leu  Ile  Asn  Phe  Tyr  Leu  Gln  Ile  Glu  Lys  Glu  Gly  Pro
      35              40              45

```

Cys Lys Glu Asn Gly Lys
50

<210> 236

<211> 672

<212> PRT

<213> Homo sapiens

<400> 236

Met	Gly	Val	Gly	Arg	Leu	Asp	Met	Tyr	Val	Leu	His	Pro	Pro	Ser	Ala
1				5					10					15	
Gly	Ala	Glu	Arg	Thr	Leu	Ala	Ser	Val	Cys	Ala	Leu	Leu	Val	Trp	His
			20					25					30		
Pro	Ala	Gly	Pro	Gly	Glu	Lys	Val	Val	Arg	Val	Leu	Phe	Pro	Gly	Cys
		35					40					45			
Thr	Pro	Pro	Ala	Cys	Leu	Leu	Asp	Gly	Leu	Val	Arg	Leu	Gln	His	Leu
	50					55					60				
Arg	Phe	Leu	Arg	Glu	Pro	Val	Val	Thr	Pro	Gln	Asp	Leu	Glu	Gly	Pro
65					70					75					80
Gly	Arg	Ala	Glu	Ser	Lys	Glu	Ser	Val	Gly	Ser	Arg	Asp	Ser	Ser	Lys
				85					90					95	
Arg	Glu	Gly	Leu	Leu	Ala	Thr	His	Pro	Arg	Pro	Gly	Gln	Glu	Arg	Pro
			100					105					110		
Gly	Val	Ala	Arg	Lys	Glu	Pro	Ala	Arg	Ala	Glu	Ala	Pro	Arg	Lys	Thr
		115					120					125			
Glu	Lys	Glu	Ala	Lys	Ala	Pro	Arg	Glu	Leu	Lys	Lys	Asp	Pro	Lys	Pro
	130					135					140				
Ser	Val	Ser	Arg	Thr	Gln	Pro	Arg	Glu	Val	Arg	Arg	Ala	Ala	Ser	Ser
145					150					155				160	
Val	Pro	Asn	Leu	Lys	Lys	Thr	Asn	Ala	Gln	Ala	Ala	Pro	Lys	Pro	Arg
			165						170					175	
Lys	Ala	Pro	Ser	Thr	Ser	His	Ser	Gly	Phe	Pro	Pro	Val	Ala	Asn	Gly
		180						185					190		
Pro	Arg	Ser	Pro	Pro	Ser	Leu	Arg	Cys	Gly	Glu	Ala	Ser	Pro	Pro	Ser
		195					200					205			
Ala	Ala	Cys	Gly	Ser	Pro	Ala	Ser	Gln	Leu	Val	Ala	Thr	Pro	Ser	Leu
	210					215					220				
Glu	Leu	Gly	Pro	Ile	Pro	Ala	Gly	Glu	Glu	Lys	Ala	Leu	Glu	Leu	Pro
225					230					235					240
Leu	Ala	Ala	Ser	Ser	Ile	Pro	Arg	Pro	Arg	Thr	Pro	Ser	Pro	Glu	Ser
				245					250					255	

His Arg Ser Pro Ala Glu Gly Ser Glu Arg Leu Ser Leu Ser Pro Leu
 260 265 270
 Arg Gly Gly Glu Ala Gly Pro Asp Ala Ser Pro Thr Val Thr Thr Pro
 275 280 285
 Thr Val Thr Thr Pro Ser Leu Pro Ala Glu Val Gly Ser Pro His Ser
 290 295 300
 Thr Glu Val Asp Glu Ser Leu Ser Val Ser Phe Glu Gln Val Leu Pro
 305 310 315 320
 Pro Ser Ala Pro Thr Ser Glu Ala Gly Leu Ser Leu Pro Leu Arg Gly
 325 330 335
 Pro Arg Ala Arg Arg Ser Ala Ser Pro His Asp Val Asp Leu Cys Leu
 340 345 350
 Val Ser Pro Cys Glu Phe Glu His Arg Lys Ala Val Pro Met Ala Pro
 355 360 365
 Ala Pro Ala Ser Pro Gly Ser Ser Asn Asp Ser Ser Ala Arg Ser Gln
 370 375 380
 Glu Arg Ala Gly Gly Leu Gly Ala Glu Glu Thr Pro Pro Thr Ser Val
 385 390 395 400
 Ser Glu Ser Leu Pro Thr Leu Ser Asp Ser Asp Pro Val Pro Leu Ala
 405 410 415
 Pro Gly Ala Ala Asp Ser Asp Glu Asp Thr Glu Gly Phe Gly Val Pro
 420 425 430
 Arg His Asp Pro Leu Pro Asp Pro Leu Lys Val Pro Pro Pro Leu Pro
 435 440 445
 Asp Pro Ser Ser Ile Cys Met Val Asp Pro Glu Met Leu Pro Pro Lys
 450 455 460
 Thr Ala Arg Gln Thr Glu Asn Val Ser Arg Thr Arg Lys Pro Leu Ala
 465 470 475 480
 Arg Pro Asn Ser Arg Ala Ala Ala Pro Lys Ala Thr Pro Val Ala Ala
 485 490 495
 Ala Lys Thr Lys Gly Leu Ala Gly Gly Asp Arg Ala Ser Arg Pro Leu
 500 505 510
 Ser Ala Arg Ser Glu Pro Ser Glu Lys Gly Gly Arg Ala Pro Leu Ser
 515 520 525
 Arg Lys Ser Ser Thr Pro Lys Thr Ala Thr Arg Gly Pro Ser Gly Ser
 530 535 540
 Ala Ser Ser Arg Pro Gly Val Ser Ala Thr Pro Pro Lys Ser Pro Val
 545 550 555 560

Tyr	Leu	Asp	Leu	Ala	Tyr	Leu	Pro	Ser	Gly	Ser	Ser	Ala	His	Leu	Val	
				565					570					575		
Asp	Glu	Glu	Phe	Phe	Gln	Arg	Val	Arg	Ala	Leu	Cys	Tyr	Val	Ile	Ser	
				580					585					590		
Gly	Gln	Asp	Gln	Arg	Lys	Glu	Glu	Gly	Met	Arg	Ala	Val	Leu	Asp	Ala	
				595					600					605		
Leu	Leu	Ala	Ser	Lys	Gln	His	Trp	Asp	Arg	Asp	Leu	Gln	Val	Thr	Leu	
				610					615					620		
Ile	Pro	Thr	Phe	Asp	Ser	Val	Ala	Met	His	Thr	Trp	Tyr	Ala	Glu	Thr	
				625					630					635		
His	Ala	Arg	His	Gln	Ala	Leu	Gly	Ile	Thr	Val	Leu	Gly	Ser	Asn	Ser	
				645					650					655		
Met	Val	Ser	Met	Gln	Asp	Asp	Ala	Phe	Pro	Ala	Cys	Lys	Val	Glu	Phe	
				660					665					670		

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<210> 237
<211> 222
<212> PRT
<213> Homo sapiens
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<400> 237																
Met	Asn	Ser	Asn	Val	Glu	Asn	Leu	Pro	Pro	His	Ile	Ile	Arg	Leu	Val	
1				5					10					15		
Tyr	Lys	Glu	Val	Thr	Thr	Leu	Thr	Ala	Asp	Pro	Pro	Asp	Gly	Ile	Lys	
			20					25					30			
Val	Phe	Pro	Asn	Glu	Glu	Asp	Leu	Thr	Asp	Leu	Gln	Val	Thr	Ile	Glu	
		35					40					45				
Gly	Pro	Glu	Gly	Thr	Pro	Tyr	Ala	Gly	Gly	Leu	Phe	Arg	Met	Lys	Leu	
	50					55					60					
Leu	Leu	Gly	Lys	Asp	Phe	Pro	Ala	Ser	Pro	Pro	Lys	Gly	Tyr	Phe	Leu	
65					70					75					80	
Thr	Lys	Ile	Phe	His	Pro	Asn	Val	Gly	Ala	Asn	Gly	Glu	Ile	Cys	Val	
				85					90					95		
Asn	Val	Leu	Lys	Arg	Asp	Trp	Thr	Ala	Glu	Leu	Gly	Ile	Arg	His	Val	
			100					105					110			
Leu	Leu	Thr	Ile	Lys	Cys	Leu	Leu	Ile	His	Pro	Asn	Pro	Glu	Ser	Ala	
		115					120					125				
Leu	Asn	Glu	Glu	Ala	Gly	Arg	Leu	Leu	Leu	Glu	Asn	Tyr	Glu	Glu	Tyr	
	130					135					140					

Ala Ala Arg Ala Arg Leu Leu Thr Glu Ile His Gly Gly Ala Gly Gly
145 150 155 160

Pro Ser Gly Arg Ala Glu Ala Gly Arg Ala Leu Ala Ser Gly Thr Glu
165 170 175

Ala Ser Ser Thr Asp Pro Gly Ala Pro Gly Gly Pro Gly Gly Ala Glu
180 185 190

Gly Thr Met Ala Lys Lys His Ala Gly Glu Arg Asp Lys Lys Leu Ala
195 200 205

Ala Lys Lys Lys Thr Asp Lys Lys Arg Ala Leu Arg Arg Leu
210 215 220

<210> 238

<211> 245

<212> PRT

<213> Homo sapiens

<400> 238

Met Ala Val Arg Ala Ser Phe Glu Asn Asn Cys Glu Ile Gly Cys Phe
1 5 10 15

Ala Lys Leu Thr Asn Thr Tyr Cys Leu Val Ala Ile Gly Gly Ser Glu
20 25 30

Asn Phe Tyr Ser Val Phe Glu Gly Glu Leu Ser Asp Thr Ile Pro Val
35 40 45

Val His Ala Ser Ile Ala Gly Cys Arg Ile Ile Gly Arg Met Cys Val
50 55 60

Gly Asn Arg His Gly Leu Leu Val Pro Asn Asn Thr Thr Asp Gln Glu
65 70 75 80

Leu Gln His Ile Arg Asn Ser Leu Pro Asp Thr Val Gln Ile Arg Arg
85 90 95

Val Glu Glu Arg Leu Ser Ala Leu Gly Asn Val Thr Thr Cys Asn Asp
100 105 110

Tyr Val Ala Leu Val His Pro Asp Leu Asp Arg Glu Thr Glu Glu Ile
115 120 125

Leu Ala Asp Val Leu Lys Val Glu Val Phe Arg Gln Thr Val Ala Asp
130 135 140

Gln Val Leu Val Gly Ser Tyr Cys Val Phe Ser Asn Gln Gly Gly Leu
145 150 155 160

Val His Pro Lys Thr Ser Ile Glu Asp Gln Asp Glu Leu Ser Ser Leu
165 170 175

Leu Gln Val Pro Leu Val Ala Gly Thr Val Asn Arg Gly Ser Glu Val
180 185 190

Ile Ala Ala Gly Met Val Val Asn Asp Trp Cys Ala Phe Cys Gly Leu
 195 200 205

Asp Thr Thr Ser Thr Glu Leu Ser Val Val Glu Ser Val Phe Lys Leu
 210 215 220

Asn Glu Ala Gln Pro Ser Thr Ile Ala Thr Ser Met Arg Asp Ser Leu
 225 230 235 240

Ile Asp Ser Leu Thr
 245

<210> 239

<211> 117

<212> PRT

<213> Homo sapiens

<400> 239

Met Glu Ser Gly Ala Lys Gly Cys Glu Val Val Val Ser Gly Lys Leu
 1 5 10 15

Arg Gly Gln Arg Ala Lys Ser Met Lys Phe Val Asp Gly Leu Met Ile
 20 25 30

His Ser Gly Asp Pro Val Asn Tyr Tyr Val Asp Thr Ala Val Arg His
 35 40 45

Val Leu Leu Arg Gln Gly Val Leu Gly Ile Lys Val Lys Ile Met Leu
 50 55 60

Pro Trp Asp Pro Thr Gly Lys Ile Gly Pro Lys Lys Pro Leu Pro Asp
 65 70 75 80

His Val Ser Ile Val Glu Pro Lys Asp Glu Ile Leu Pro Thr Thr Pro
 85 90 95

Ile Ser Glu Gln Lys Gly Gly Lys Pro Glu Pro Pro Ala Met Pro Gln
 100 105 110

Pro Val Pro Thr Ala
 115

<210> 240

<211> 444

<212> PRT

<213> Homo sapiens

<400> 240

Met Arg Glu Ile Val His Ile Gln Ala Gly Gln Cys Gly Asn Gln Ile
 1 5 10 15

Gly Ala Lys Phe Trp Glu Val Ile Ser Asp Glu His Gly Ile Asp Pro
 20 25 30

Thr Gly Thr Tyr His Gly Asp Ser Asp Leu Gln Leu Asp Arg Ile Ser
 35 40 45

Val	Tyr	Tyr	Asn	Glu	Ala	Thr	Gly	Gly	Lys	Tyr	Val	Pro	Arg	Ala	Ile	50	55	60	
Leu	Val	Asp	Leu	Glu	Pro	Gly	Thr	Met	Asp	Ser	Val	Arg	Ser	Gly	Pro	65	70	75	80
Phe	Gly	Gln	Ile	Phe	Arg	Pro	Asp	Asn	Phe	Val	Phe	Gly	Gln	Ser	Gly	85	90	95	
Ala	Gly	Asn	Asn	Trp	Ala	Lys	Gly	His	Tyr	Thr	Glu	Gly	Ala	Glu	Leu	100	105	110	
Val	Asp	Ser	Val	Leu	Asp	Val	Val	Arg	Lys	Glu	Ala	Glu	Ser	Cys	Asp	115	120	125	
Cys	Leu	Gln	Gly	Phe	Gln	Leu	Thr	His	Ser	Leu	Gly	Gly	Gly	Thr	Gly	130	135	140	
Ser	Gly	Met	Gly	Thr	Leu	Leu	Ile	Ser	Lys	Ile	Arg	Glu	Glu	Tyr	Pro	145	150	155	160
Asp	Arg	Ile	Met	Asn	Thr	Phe	Ser	Val	Val	Pro	Ser	Pro	Lys	Val	Ser	165	170	175	
Asp	Thr	Val	Val	Glu	Pro	Tyr	Asn	Ala	Thr	Leu	Ser	Val	His	Gln	Leu	180	185	190	
Val	Glu	Asn	Thr	Asp	Glu	Thr	Tyr	Cys	Ile	Asp	Asn	Glu	Ala	Leu	Tyr	195	200	205	
Asp	Ile	Cys	Phe	Arg	Thr	Leu	Lys	Leu	Thr	Thr	Pro	Thr	Tyr	Gly	Asp	210	215	220	
Leu	Asn	His	Leu	Val	Ser	Ala	Thr	Met	Ser	Gly	Val	Thr	Thr	Cys	Leu	225	230	235	240
Arg	Phe	Pro	Gly	Gln	Leu	Asn	Ala	Asp	Leu	Arg	Lys	Leu	Ala	Val	Asn	245	250	255	
Met	Val	Pro	Phe	Pro	Arg	Leu	His	Phe	Phe	Met	Pro	Gly	Phe	Ala	Pro	260	265	270	
Leu	Thr	Ser	Arg	Gly	Ser	Gln	Gln	Tyr	Arg	Ala	Leu	Thr	Val	Pro	Glu	275	280	285	
Leu	Thr	Gln	Gln	Val	Phe	Asp	Ala	Lys	Asn	Met	Met	Ala	Ala	Cys	Asp	290	295	300	
Pro	Arg	His	Gly	Arg	Tyr	Leu	Thr	Val	Ala	Ala	Val	Phe	Arg	Gly	Arg	305	310	315	320
Met	Ser	Met	Lys	Glu	Val	Asp	Glu	Gln	Met	Leu	Asn	Val	Gln	Asn	Lys	325	330	335	
Asn	Ser	Ser	Tyr	Phe	Val	Glu	Trp	Ile	Pro	Asn	Asn	Val	Lys	Thr	Ala	340	345	350	

Val Cys Asp Ile Pro Pro Arg Gly Leu Lys Met Ala Val Thr Phe Ile
 355 360 365

Gly Asn Ser Thr Ala Ile Gln Glu Leu Phe Lys Arg Ile Ser Glu Gln
 370 375 380

Phe Thr Ala Met Phe Arg Arg Lys Ala Phe Leu His Trp Tyr Thr Gly
 385 390 395 400

Glu Gly Met Asp Glu Met Glu Phe Thr Glu Ala Glu Ser Asn Met Asn
 405 410 415

Asp Leu Val Ser Glu Tyr Gln Gln Tyr Gln Asp Ala Thr Ala Glu Glu
 420 425 430

Glu Glu Asp Phe Gly Glu Glu Ala Glu Glu Glu Ala
 435 440

<210> 241

<211> 92

<212> PRT

<213> Homo sapiens

<400> 241

Met Asp Glu Gln Ile Arg Leu Met Asp Gln Asn Leu Lys Cys Leu Ser
 1 5 10 15

Ala Ala Glu Glu Lys Tyr Ser Gln Lys Glu Asp Lys Tyr Glu Glu Glu
 20 25 30

Ile Lys Ile Leu Thr Asp Lys Leu Lys Glu Ala Glu Thr Arg Ala Glu
 35 40 45

Phe Ala Glu Arg Ser Val Ala Lys Leu Glu Lys Thr Ile Asp Asp Leu
 50 55 60

Glu Asp Lys Leu Lys Cys Thr Lys Glu Glu His Leu Cys Thr Gln Arg
 65 70 75 80

Met Leu Asp Gln Thr Leu Leu Asp Leu Asn Glu Met
 85 90

<210> 242

<211> 453

<212> PRT

<213> Homo sapiens

<400> 242

Met Val Met Gly Ile Thr Asp Val Asp Asp Lys Ile Ile Lys Arg Ala
 1 5 10 15

Asn Glu Met Asn Ile Ser Pro Ala Ser Leu Ala Ser Leu Tyr Glu Glu
 20 25 30

Asp Phe Lys Gln Asp Met Ala Ala Leu Lys Val Leu Pro Thr Val
 35 40 45

Tyr Leu Arg Val Thr Glu Asn Ile Pro Gln Ile Ile Ser Phe Ile Glu
 50 55 60
 Gly Ile Ile Ala Ser Trp Glu Arg Leu Phe Asn Gly Lys Arg Gln Cys
 65 70 75 80
 Leu Leu Arg Ser Glu Ser Leu Glu Glu Thr Lys Tyr Gly Lys Ile Gly
 85 90 95
 Arg Arg Gly Pro Trp Ser Ser Pro Glu Thr Ser Gly Leu Leu Thr Ser
 100 105 110
 Arg His Ala Asn Asp Phe Ala Leu Trp Lys Ala Ala Lys Pro Gln Glu
 115 120 125
 Val Phe Trp Ala Ser Pro Trp Gly Pro Gly Arg Pro Gly Trp His Ile
 130 135 140
 Glu Cys Ser Ala Ile Ala Ser Met Val Phe Gly Ser Gln Leu Asp Ile
 145 150 155 160
 His Ser Gly Gly Ile Asp Leu Ala Phe Pro His His Glu Asn Glu Ile
 165 170 175
 Ala Gln Cys Glu Val Phe His Gln Cys Glu Gln Trp Gly Asn Tyr Phe
 180 185 190
 Leu His Ser Gly His Leu His Ala Lys Gly Lys Glu Glu Lys Met Ser
 195 200 205
 Lys Ser Leu Lys Asn Tyr Ile Thr Ile Lys Asp Phe Leu Lys Thr Phe
 210 215 220
 Ser Pro Asp Val Phe Arg Phe Phe Cys Leu Arg Ser Ser Tyr Arg Ser
 225 230 235 240
 Ala Ile Asp Tyr Ser Asp Ser Ala Met Leu Gln Ala Gln Gln Leu Leu
 245 250 255
 Leu Gly Leu Gly Ser Phe Leu Glu Asp Ala Arg Ala Tyr Met Lys Gly
 260 265 270
 Gln Leu Ala Cys Gly Ser Val Arg Glu Ala Met Leu Trp Glu Arg Leu
 275 280 285
 Ser Ser Thr Lys Arg Ala Val Lys Ala Ala Leu Ala Asp Asp Phe Asp
 290 295 300
 Thr Pro Arg Val Val Asp Ala Ile Leu Gly Leu Ala His His Gly Asn
 305 310 315 320
 Gly Gln Leu Arg Ala Ser Leu Lys Glu Pro Glu Gly Pro Arg Ser Pro
 325 330 335
 Ala Val Phe Gly Ala Ile Ile Ser Tyr Phe Glu Gln Phe Phe Glu Thr
 340 345 350

Val Gly Ile Ser Leu Ala Asn Gln Gln Tyr Val Ser Gly Asp Gly Ser
 355 360 365

Glu Ala Thr Leu His Gly Val Val Asp Glu Leu Val Arg Phe Arg Gln
 370 375 380

Lys Val Arg Gln Phe Ala Leu Ala Met Pro Glu Ala Thr Gly Asp Ala
 385 390 395 400

Arg Arg Gln Gln Leu Leu Glu Arg Gln Pro Leu Leu Glu Ala Cys Asp
 405 410 415

Thr Leu Arg Arg Gly Leu Thr Ala His Gly Ile Asn Ile Lys Asp Arg
 420 425 430

Ser Ser Thr Thr Ser Thr Trp Glu Leu Leu Asp Gln Arg Thr Lys Asp
 435 440 445

Gln Lys Ser Ala Gly
 450

<210> 243

<211> 209

<212> PRT

<213> Homo sapiens

<400> 243

Met Lys Glu Leu Ala Glu Glu Glu Pro His Leu Val Glu Gln Phe Gln
 1 5 10 15

Lys Leu Ser Glu Ala Ala Gly Arg Val Gly Ser Asp Met Thr Ser Gln
 20 25 30

Gln Glu Phe Thr Ser Cys Leu Lys Glu Thr Leu Ser Gly Leu Ala Lys
 35 40 45

Asn Ala Thr Asp Leu Gln Asn Ser Ser Met Ser Glu Glu Glu Leu Thr
 50 55 60

Lys Ala Met Glu Gly Leu Gly Met Asp Glu Gly Asp Gly Glu Gly Asn
 65 70 75 80

Ile Leu Pro Ile Met Gln Ser Ile Met Gln Asn Leu Leu Ser Lys Asp
 85 90 95

Val Leu Tyr Pro Ser Leu Lys Glu Ile Thr Glu Lys Tyr Pro Glu Trp
 100 105 110

Leu Gln Ser His Arg Glu Ser Leu Pro Pro Glu Gln Phe Glu Lys Tyr
 115 120 125

Gln Glu Gln His Ser Val Met Cys Lys Ile Cys Glu Gln Phe Glu Ala
 130 135 140

Glu Thr Pro Thr Asp Ser Glu Thr Thr Gln Lys Ala Arg Phe Glu Met
 145 150 155 160

Val Leu Asp Leu Met Gln Gln Leu Gln Asp Leu Gly His Pro Pro Lys
165 170 175

Glu Leu Ala Gly Glu Met Pro Pro Gly Leu Asn Phe Asp Leu Asp Ala
180 185 190

Leu Asn Leu Ser Gly Pro Pro Gly Ala Ser Gly Glu Gln Cys Leu Ile
195 200 205

Met

<210> 244

<211> 354

<212> PRT

<213> Homo sapiens

<400> 244

Met Arg Arg Leu Met Sér Ser Arg Asp Trp Pro Arg Thr Arg Thr Gly
1 5 10 15

Thr Gly Ile Leu Ser Ser Gln Pro Glu Glu Asn Pro Tyr Trp Trp Asn
20 25 30

Ala Asn Met Val Phe Ile Pro Tyr Cys Ser Ser Asp Val Trp Ser Gly
35 40 45

Ala Ser Ser Lys Ser Glu Lys Asn Glu Tyr Ala Phe Met Gly Ala Leu
50 55 60

Ile Ile Gln Glu Val Val Arg Glu Leu Leu Gly Arg Gly Leu Ser Gly
65 70 75 80

Ala Lys Val Leu Leu Leu Ala Gly Ser Ser Ala Gly Gly Thr Gly Val
85 90 95

Leu Leu Asn Val Asp Arg Val Ala Glu Gln Leu Glu Lys Leu Gly Tyr
100 105 110

Pro Ala Ile Gln Val Arg Gly Leu Ala Asp Ser Gly Trp Phe Leu Asp
115 120 125

Asn Lys Gln Tyr Arg His Thr Asp Cys Val Asp Thr Ile Thr Cys Ala
130 135 140

Pro Thr Glu Ala Ile Arg Arg Gly Ile Arg Tyr Trp Asn Gly Val Val
145 150 155 160

Pro Glu Arg Cys Arg Arg Gln Phe Gln Glu Gly Glu Glu Trp Asn Cys
165 170 175

Phe Phe Gly Tyr Lys Val Tyr Pro Thr Leu Arg Cys Pro Val Phe Val
180 185 190

Val Gln Trp Leu Phe Asp Glu Ala Gln Leu Thr Val Asp Asn Val His
195 200 205

Leu Thr Gly Gln Pro Val Gln Glu Gly Leu Arg Leu Tyr Ile Gln Asn
 210 215 220
 Leu Gly Arg Glu Leu Arg His Thr Leu Lys Asp Val Pro Ala Ser Phe
 225 230 235 240
 Ala Pro Ala Cys Leu Ser His Glu Ile Ile Ile Arg Ser His Trp Thr
 245 250 255
 Asp Val Gln Val Lys Gly Thr Ser Leu Pro Arg Ala Leu His Cys Trp
 260 265 270
 Asp Arg Ser Leu His Asp Ser His Lys Ala Ser Lys Thr Pro Leu Lys
 275 280 285
 Gly Cys Pro Val His Leu Val Asp Ser Cys Pro Trp Pro His Cys Asn
 290 295 300
 Pro Ser Cys Pro Thr Val Arg Asp Gln Phe Thr Gly Gln Glu Met Asn
 305 310 315 320
 Val Ala Gln Phe Leu Met His Met Gly Phe Asp Met Gln Thr Val Ala
 325 330 335
 Gln Pro Gln Gly Leu Glu Pro Ser Glu Leu Leu Gly Met Leu Ser Asn
 340 345 350

Gly Ser

<210> 245
 <211> 295
 <212> PRT
 <213> Homo sapiens

<400> 245
 Met Glu Leu Ile Gln Asp Thr Ser Arg Pro Pro Leu Glu Tyr Val Lys
 1 5 10 15
 Gly Val Pro Leu Ile Lys Tyr Phe Ala Glu Ala Leu Gly Pro Leu Gln
 20 25 30
 Ser Phe Gln Ala Arg Pro Asp Asp Leu Leu Ile Ser Thr Tyr Pro Lys
 35 40 45
 Ser Gly Thr Thr Trp Val Ser Gln Ile Leu Asp Met Ile Tyr Gln Gly
 50 55 60
 Gly Asp Leu Glu Lys Cys His Arg Ala Pro Ile Phe Met Arg Val Pro
 65 70 75 80
 Phe Leu Glu Phe Lys Ala Pro Gly Ile Pro Ser Gly Met Glu Thr Leu
 85 90 95
 Lys Asp Thr Pro Ala Pro Arg Leu Leu Lys Thr His Leu Pro Leu Ala
 100 105 110

Leu Leu Pro Gln Thr Leu Leu Asp Gln Lys Val Lys Val Val Tyr Val
 115 120 125
 Ala Arg Asn Ala Lys Asp Val Ala Val Ser Tyr Tyr His Phe Tyr His
 130 135 140
 Met Ala Lys Val His Pro Glu Pro Gly Thr Trp Asp Ser Phe Leu Glu
 145 150 155 160
 Lys Phe Met Val Gly Glu Val Ser Tyr Gly Ser Trp Tyr Gln His Val
 165 170 175
 Gln Glu Trp Trp Glu Leu Ser Arg Thr His Pro Val Leu Tyr Leu Phe
 180 185 190
 Tyr Glu Asp Met Lys Glu Asn Pro Lys Arg Glu Ile Gln Lys Ile Leu
 195 200 205
 Glu Phe Val Gly His Ser Leu Pro Glu Glu Thr Val Asp Phe Met Val
 210 215 220
 Gln His Thr Ser Phe Lys Glu Met Lys Lys Asn Pro Met Thr Asn Tyr
 225 230 235 240
 Thr Thr Val Pro Gln Glu Phe Met Asp His Ser Ile Ser Pro Phe Met
 245 250 255
 Arg Lys Gly Met Ala Gly Asp Trp Lys Thr Thr Phe Thr Val Ala Gln
 260 265 270
 Asn Glu Arg Phe Asp Ala Asp Tyr Ala Glu Lys Met Ala Gly Cys Ser
 275 280 285
 Leu Ser Phe Arg Ser Glu Leu
 290 295
 <210> 246
 <211> 439
 <212> PRT
 <213> Homo sapiens
 <400> 246
 Met Glu Pro Ser Thr Ala Ala Arg Ala Trp Ala Leu Phe Trp Leu Leu
 1 5 10 15
 Leu Pro Leu Leu Gly Ala Val Cys Ala Ser Gly Pro Arg Thr Leu Val
 20 25 30
 Leu Leu Asp Asn Leu Asn Val Arg Glu Thr His Ser Leu Phe Phe Arg
 35 40 45
 Ser Leu Lys Asp Arg Gly Phe Glu Leu Thr Phe Lys Thr Ala Asp Asp
 50 55 60
 Pro Ser Leu Ser Leu Ile Lys Tyr Gly Glu Phe Leu Tyr Asp Asn Leu
 65 70 75 80

Ile	Ile	Phe	Ser	Pro	Ser	Val	Glu	Asp	Phe	Gly	Gly	Asn	Ile	Asn	Val
				85					90					95	
Glu	Thr	Ile	Ser	Ala	Phe	Ile	Asp	Gly	Gly	Gly	Ser	Val	Leu	Val	Ala
			100					105					110		
Ala	Ser	Ser	Asp	Ile	Gly	Asp	Pro	Leu	Arg	Glu	Leu	Gly	Ser	Glu	Cys
		115					120					125			
Gly	Ile	Glu	Phe	Asp	Glu	Glu	Lys	Thr	Ala	Val	Ile	Asp	His	His	Asn
	130					135					140				
Tyr	Asp	Ile	Ser	Asp	Leu	Gly	Gln	His	Thr	Leu	Ile	Val	Ala	Asp	Thr
145					150					155					160
Glu	Asn	Leu	Leu	Lys	Ala	Pro	Thr	Ile	Val	Gly	Lys	Ser	Ser	Leu	Asn
				165					170					175	
Pro	Ile	Leu	Phe	Arg	Gly	Val	Gly	Met	Val	Ala	Asp	Pro	Asp	Asn	Pro
			180					185					190		
Leu	Val	Leu	Asp	Ile	Leu	Thr	Gly	Ser	Ser	Thr	Ser	Tyr	Ser	Phe	Phe
		195					200					205			
Pro	Asp	Lys	Pro	Ile	Thr	Gln	Tyr	Pro	His	Ala	Val	Gly	Lys	Asn	Thr
	210					215					220				
Leu	Leu	Ile	Ala	Gly	Leu	Gln	Ala	Arg	Asn	Asn	Ala	Arg	Val	Ile	Phe
225					230					235					240
Ser	Gly	Ser	Leu	Asp	Phe	Phe	Ser	Asp	Ser	Phe	Phe	Asn	Ser	Ala	Val
				245					250					255	
Gln	Lys	Ala	Ala	Pro	Gly	Ser	Gln	Arg	Tyr	Ser	Gln	Thr	Gly	Asn	Tyr
			260					265					270		
Glu	Leu	Ala	Val	Ala	Leu	Ser	Arg	Trp	Val	Phe	Lys	Glu	Glu	Gly	Val
		275					280					285			
Leu	Arg	Val	Gly	Pro	Val	Ser	His	His	Arg	Val	Gly	Glu	Thr	Ala	Pro
	290					295					300				
Pro	Asn	Ala	Tyr	Thr	Val	Thr	Asp	Leu	Val	Glu	Tyr	Ser	Ile	Val	Ile
305					310					315					320
Gln	Gln	Leu	Ser	Asn	Gly	Lys	Trp	Val	Pro	Phe	Asp	Gly	Asp	Asp	Ile
				325					330					335	
Gln	Leu	Glu	Phe	Val	Arg	Ile	Asp	Pro	Phe	Val	Arg	Thr	Phe	Leu	Lys
			340					345					350		
Lys	Lys	Gly	Gly	Lys	Tyr	Ser	Val	Gln	Phe	Lys	Leu	Pro	Asp	Val	Tyr
		355					360					365			
Gly	Val	Phe	Gln	Phe	Lys	Val	Asp	Tyr	Asn	Arg	Leu	Gly	Tyr	Thr	His
	370					375					380				

90

Leu Tyr Ser Ser Thr Gln Val Ser Val Arg Pro Leu Gln His Thr Gln
385 390 395 400

Tyr Glu Arg Phe Ile Pro Ser Ala Tyr Pro Tyr Tyr Ala Ser Ala Phe
405 410 415

Ser Met Met Leu Gly Leu Phe Ile Phe Ser Ile Val Phe Leu His Met
420 425 430

Lys Glu Lys Glu Lys Ser Asp
435

<210> 247

<211> 56

<212> PRT

<213> Homo sapiens

<400> 247

Met Glu Thr Leu His Thr Trp Gly Ser Lys Val Leu Gly Tyr Ser Trp
1 5 10 15

Ile Phe Arg Thr Ser Ala Tyr Pro Gln Val Ser Gln Ala Ser Gly Gly
20 25 30

Glu Ala Ser Asp Pro Trp Pro Thr Cys Tyr Pro Pro Gln Gly Leu Asp
35 40 45

Leu Ser Ser Arg Glu Gly Thr Glu
50 55

<210> 248

<211> 46

<212> PRT

<213> Homo sapiens

<400> 248

Met Gly Phe Lys Gly Pro Gly Val Phe Leu Asp Leu Gln Asp Ile Cys
1 5 10 15

Leu Pro Ser Gly Phe Pro Gly Leu Gly Trp Gly Gly Ile Arg Ser Leu
20 25 30

Ala Asn Leu Leu Ser Thr Pro Gly Phe Arg Pro Leu Phe Pro
35 40 45

<210> 249

<211> 61

<212> PRT

<213> Homo sapiens

<400> 249

Ile Gly Thr Val Phe Leu Glu Gly Asn Leu Val Lys Cys Ile Lys Arg
1 5 10 15

Leu Lys Asn Thr Asp Val Leu Cys Ala Gly Asn Ser Thr Ser Ser Asn
 20 25 30

Phe Ser Leu Lys Pro Tyr Gln Arg Cys Ile Gln Arg Ile Ile Tyr Lys
 35 40 45

Glu Gly Cys Leu Ile Met Ile Val Ile Ile Ile Asn Asn
 50 55 60

<210> 250

<211> 73

<212> PRT

<213> Homo sapiens

<400> 250

Met Phe Asp Ser Pro Phe Tyr Glu Leu Asn Tyr Phe Ile Arg Val Gly
 1 5 10 15

Asn Phe Cys Phe Leu Ile Lys Trp Lys Leu Ala Phe Leu Thr Leu Phe
 20 25 30

Leu Leu Leu Phe Tyr Arg Asn Ala Phe Cys Trp Pro Gly Thr Val Ala
 35 40 45

His Pro Cys Asn Pro Ser Thr Val Gly Gly Arg Asp Gly Trp Ile Thr
 50 55 60

Arg Ser Gly Asp Arg Asp His Pro Gly
 65 70

<210> 251

<211> 43

<212> PRT

<213> Homo sapiens

<400> 251

Met Leu Phe Val Gly Arg Ala Gln Leu Leu Ile His Val Ile Pro Ala
 1 5 10 15

Leu Trp Glu Ala Glu Thr Gly Gly Ser Gln Gly Gln Glu Ile Glu Thr
 20 25 30

Ile Leu Ala Asn Ala Leu Lys Leu Arg Leu Cys
 35 40

<210> 252

<211> 30

<212> PRT

<213> Homo sapiens

<400> 252

Met Tyr Ile Phe Phe Cys Val Leu Phe Leu Leu Leu Leu Phe Glu
 1 5 10 15

Thr Gly Ser Cys Ser Val Ala Gln Ala Gly Val Gln Trp His
 20 25 30

<210> 253

<211> 87

<212> PRT

<213> Homo sapiens

<400> 253

Met Asn Cys Asn Thr Gln Ser Gln Thr Arg Ala Leu Pro Arg Pro Leu
 1 5 10 15

Gly Gly Cys Thr Pro Ser Ser Ser Ala Arg Leu Arg Ser Leu Arg Pro
 20 25 30

Arg Leu Lys Glu Gly Val Ala Gly Asn Pro Gly Asn Leu Ser Glu Val
 35 40 45

Thr Pro His Pro Tyr Thr Pro Ser Val His Pro Arg Leu Phe Leu Leu
 50 55 60

Leu Phe Gly Phe Trp Lys Gly Ile His Leu Gln Ala Ala His Pro Gly
 65 70 75 80

Gly Ala Cys Phe Leu Lys Pro
 85

<210> 254

<211> 211

<212> PRT

<213> Homo sapiens

<400> 254

Met Ala Pro Ser Arg Asn Gly Met Val Leu Lys Pro His Phe His Lys
 1 5 10 15

Asp Trp Gln Arg Arg Val Ala Thr Trp Phe Asn Gln Pro Ala Arg Lys
 20 25 30

Ile Arg Arg Arg Lys Ala Arg Gln Ala Lys Ala Arg Arg Ile Ala Pro
 35 40 45

Arg Pro Ala Ser Gly Pro Ile Arg Pro Ile Val Arg Cys Pro Thr Val
 50 55 60

Arg Tyr His Thr Lys Val Arg Ala Gly Arg Gly Phe Ser Leu Glu Glu
 65 70 75 80

Leu Arg Val Ala Gly Ile His Lys Lys Val Ala Arg Thr Ile Gly Ile
 85 90 95

Ser Val Asp Pro Arg Arg Arg Asn Lys Ser Thr Glu Ser Leu Gln Ala
 100 105 110

Asn Val Gln Arg Leu Lys Glu Tyr Arg Ser Lys Leu Ile Leu Phe Pro
 115 120 125

Arg Lys Pro Ser Ala Pro Lys Lys Gly Asp Ser Ser Ala Glu Glu Leu
 130 135 140

Lys Leu Ala Thr Gln Leu Thr Gly Pro Val Met Pro Val Arg Asn Val
 145 150 155 160

Tyr Lys Lys Glu Lys Ala Arg Val Ile Thr Glu Glu Glu Lys Asn Phe
 165 170 175

Lys Ala Phe Ala Ser Leu Arg Met Ala Arg Ala Asn Ala Arg Leu Phe
 180 185 190

Gly Ile Arg Ala Lys Arg Ala Lys Glu Ala Ala Glu Gln Asp Val Glu
 195 200 205

Lys Lys Lys
 210

<210> 255

<211> 417

<212> PRT

<213> Homo sapiens

<400> 255

Met Ser Leu Ser Asn Lys Leu Thr Leu Asp Lys Leu Asp Val Lys Gly
 1 5 10 15

Lys Arg Val Val Met Arg Val Asp Phe Asn Val Pro Met Lys Asn Asn
 20 25 30

Gln Ile Thr Asn Asn Gln Arg Ile Lys Ala Ala Val Pro Ser Ile Lys
 35 40 45

Phe Cys Leu Asp Asn Gly Ala Lys Ser Val Val Leu Met Ser His Leu
 50 55 60

Gly Arg Pro Asp Gly Val Pro Met Pro Asp Lys Tyr Ser Leu Glu Pro
 65 70 75 80

Val Ala Val Glu Leu Lys Ser Leu Leu Gly Lys Asp Val Leu Phe Leu
 85 90 95

Lys Asp Cys Val Gly Pro Glu Val Glu Lys Ala Cys Ala Asn Pro Ala
 100 105 110

Ala Gly Ser Val Ile Leu Leu Glu Asn Leu Arg Phe His Val Glu Glu
 115 120 125

Glu Gly Lys Gly Lys Asp Ala Ser Gly Asn Lys Val Lys Ala Glu Pro
 130 135 140

Ala Lys Ile Glu Ala Phe Arg Ala Ser Leu Ser Lys Leu Gly Asp Val
 145 150 155 160

Tyr Val Asn Asp Ala Phe Gly Thr Ala His Arg Ala His Ser Ser Met
 165 170 175

Val Gly Val Asn Leu Pro Gln Lys Ala Gly Gly Phe Leu Met Lys Lys
 180 185 190
 Glu Leu Asn Tyr Phe Ala Lys Ala Leu Glu Ser Pro Glu Arg Pro Phe
 195 200 205
 Leu Ala Ile Leu Gly Gly Ala Lys Val Ala Asp Lys Ile Gln Leu Ile
 210 215 220
 Asn Asn Met Leu Asp Lys Val Asn Glu Met Ile Ile Gly Gly Gly Met
 225 230 235 240
 Ala Phe Thr Phe Leu Lys Val Leu Asn Asn Met Glu Ile Gly Thr Ser
 245 250 255
 Leu Phe Asp Glu Glu Gly Ala Lys Ile Val Lys Asp Leu Met Ser Lys
 260 265 270
 Ala Glu Lys Asn Gly Val Lys Ile Thr Leu Pro Val Asp Phe Val Thr
 275 280 285
 Ala Asp Lys Phe Asp Glu Asn Ala Lys Thr Gly Gln Ala Thr Val Ala
 290 295 300
 Ser Gly Ile Pro Ala Gly Trp Met Gly Leu Asp Cys Gly Pro Glu Ser
 305 310 315 320
 Ser Lys Lys Tyr Ala Glu Ala Val Thr Arg Ala Lys Gln Ile Val Trp
 325 330 335
 Asn Gly Pro Val Gly Val Phe Glu Trp Glu Ala Phe Ala Arg Gly Thr
 340 345 350
 Lys Ala Leu Met Asp Glu Val Val Lys Ala Thr Ser Arg Gly Cys Ile
 355 360 365
 Thr Ile Ile Gly Gly Gly Asp Thr Ala Thr Cys Cys Ala Lys Trp Asn
 370 375 380
 Thr Glu Asp Lys Val Ser His Val Ser Thr Gly Gly Gly Ala Ser Leu
 385 390 395 400
 Glu Leu Leu Glu Gly Lys Val Leu Pro Gly Val Asp Ala Leu Ser Asn
 405 410 415

Ile

<210> 256

<211> 568

<212> PRT

<213> Homo sapiens

<400> 256

Met Val Leu Gly Pro Glu Gln Lys Met Ser Asp Asp Ser Val Ser Gly
 1 5 10 15

Asp His Gly Glu Ser Ala Ser Leu Gly Asn Ile Asn Pro Ala Tyr Ser
 20 25 30

Asn Pro Ser Leu Ser Gln Ser Pro Gly Asp Ser Glu Glu Tyr Phe Ala
 35 40 45

Thr Tyr Phe Asn Glu Lys Ile Ser Ile Pro Glu Glu Glu Tyr Ser Cys
 50 55 60

Phe Ser Phe Arg Lys Leu Trp Ala Phe Thr Gly Pro Gly Phe Leu Met
 65 70 75 80

Ser Ile Ala Tyr Leu Asp Pro Gly Asn Ile Glu Ser Asp Leu Gln Ser
 85 90 95

Gly Ala Val Ala Gly Phe Lys Leu Leu Trp Ile Leu Leu Leu Ala Thr
 100 105 110

Leu Val Gly Leu Leu Leu Gln Arg Leu Ala Ala Arg Leu Gly Val Val
 115 120 125

Thr Gly Leu His Leu Ala Glu Val Cys His Arg Gln Tyr Pro Lys Val
 130 135 140

Pro Arg Val Ile Leu Trp Leu Met Val Glu Leu Ala Ile Ile Gly Ser
 145 150 155 160

Asp Met Gln Glu Val Ile Gly Ser Ala Ile Ala Ile Asn Leu Leu Ser
 165 170 175

Val Gly Arg Ile Pro Leu Trp Gly Gly Val Leu Ile Thr Ile Ala Asp
 180 185 190

Thr Phe Val Phe Leu Phe Leu Asp Lys Tyr Gly Leu Arg Lys Leu Glu
 195 200 205

Ala Phe Phe Gly Phe Leu Ile Thr Ile Met Ala Leu Thr Phe Gly Tyr
 210 215 220

Glu Tyr Val Thr Val Lys Pro Ser Gln Ser Gln Val Leu Lys Gly Met
 225 230 235 240

Phe Val Pro Ser Cys Ser Gly Cys Arg Thr Pro Gln Ile Glu Gln Ala
 245 250 255

Val Gly Ile Val Gly Ala Val Ile Met Pro His Asn Met Tyr Leu His
 260 265 270

Ser Ala Leu Val Lys Ser Arg Gln Val Asn Arg Asn Asn Lys Gln Glu
 275 280 285

Val Arg Glu Ala Asn Lys Tyr Phe Phe Ile Glu Ser Cys Ile Ala Leu
 290 295 300

Phe Val Ser Phe Ile Ile Asn Val Phe Val Val Ser Val Phe Ala Glu
 305 310 315 320

Ala Phe Phe Gly Lys Thr Asn Glu Gln Val Val Glu Val Cys Thr Asn
 325 330 335
 Thr Ser Ser Pro His Ala Gly Leu Phe Pro Lys Asp Asn Ser Thr Leu
 340 345 350
 Ala Val Asp Ile Tyr Lys Gly Gly Val Val Leu Gly Cys Tyr Phe Gly
 355 360 365
 Pro Ala Ala Leu Tyr Ile Trp Ala Val Gly Ile Leu Ala Ala Gly Gln
 370 375 380
 Ser Ser Thr Met Thr Gly Thr Tyr Ser Gly Gln Phe Val Met Glu Gly
 385 390 395 400
 Phe Leu Asn Leu Lys Trp Ser Arg Phe Ala Arg Val Val Leu Thr Arg
 405 410 415
 Ser Ile Ala Ile Ile Pro Thr Leu Leu Val Ala Val Phe Gln Asp Val
 420 425 430
 Glu His Leu Thr Gly Met Asn Asp Phe Leu Asn Val Leu Gln Ser Leu
 435 440 445
 Gln Leu Pro Phe Ala Leu Ile Pro Ile Leu Thr Phe Thr Ser Leu Arg
 450 455 460
 Pro Val Met Ser Asp Phe Ala Asn Gly Leu Gly Trp Arg Ile Ala Gly
 465 470 475 480
 Gly Ile Leu Val Leu Ile Ile Cys Ser Ile Asn Met Tyr Phe Val Val
 485 490 495
 Val Tyr Val Arg Asp Leu Gly His Val Ala Leu Tyr Val Val Ala Ala
 500 505 510
 Val Val Ser Val Ala Tyr Leu Gly Phe Val Phe Tyr Leu Gly Trp Gln
 515 520 525
 Cys Leu Ile Ala Leu Gly Met Ser Phe Leu Asp Cys Gly His Thr Cys
 530 535 540
 His Leu Gly Leu Thr Ala Gln Pro Glu Leu Tyr Leu Leu Asn Thr Met
 545 550 555 560
 Asp Ala Asp Ser Leu Val Ser Arg
 565

<210> 257

<211> 46

<212> PRT

<213> Homo sapiens

<400> 257

Met Leu Phe Ile His Ala Glu Val Ile Gln Phe Pro Pro Ser Tyr Arg
 1 5 10 15

Ser Ile Leu Ile His Pro Thr Leu Glu Met Gln His Leu Cys Gly Arg
 20 25 30

Leu Phe His Lys Pro Pro Arg Leu Leu Arg Leu Gly Arg Tyr
 35 40 45

<210> 258

<211> 36

<212> PRT

<213> Homo sapiens

<400> 258

Met Ala Ser Leu Gln Phe Val Ile Ser Leu Pro Val Cys Ser Leu Lys
 1 5 10 15

Leu Ile Lys Arg Ser Gly Tyr Ile Glu Leu Leu Tyr Arg Cys Glu Gly
 20 25 30

Met Asp Lys Ser
 35

<210> 259

<211> 898

<212> PRT

<213> Homo sapiens

<400> 259

Met Ser Val Thr Glu Glu Asp Leu Cys His His Met Lys Val Val Val
 1 5 10 15

Arg Val Arg Pro Glu Asn Thr Lys Glu Lys Ala Ala Gly Phe His Lys
 20 25 30

Val Val His Val Val Asp Lys His Ile Leu Val Phe Asp Pro Lys Gln
 35 40 45

Glu Glu Val Ser Phe Phe His Gly Lys Lys Thr Thr Asn Gln Asn Val
 50 55 60

Ile Lys Lys Gln Asn Lys Asp Leu Lys Phe Val Phe Asp Ala Val Phe
 65 70 75 80

Asp Glu Thr Ser Thr Gln Ser Glu Val Phe Glu His Thr Thr Lys Pro
 85 90 95

Ile Leu Arg Ser Phe Leu Asn Gly Tyr Asn Cys Thr Val Leu Ala Tyr
 100 105 110

Gly Ala Thr Gly Ala Gly Lys Thr His Thr Met Leu Gly Ser Ala Asp
 115 120 125

Glu Pro Gly Val Met Tyr Leu Thr Met Leu His Leu Tyr Lys Cys Met
 130 135 140

Asp Glu Ile Lys Glu Glu Lys Ile Cys Ser Thr Ala Val Ser Tyr Leu
 145 150 155 160

Glu Val Tyr Asn Glu Gln Ile Arg Asp Leu Leu Val Asn Ser Gly Pro
 165 170 175
 Leu Ala Val Arg Glu Asp Thr Gln Lys Gly Val Val Val His Gly Leu
 180 185 190
 Thr Leu His Gln Pro Lys Ser Ser Glu Glu Ile Leu His Leu Leu Asp
 195 200 205
 Asn Gly Asn Lys Asn Arg Thr Gln His Pro Thr Asp Met Asn Ala Thr
 210 215 220
 Ser Ser Arg Ser His Ala Val Phe Gln Ile Tyr Leu Arg Gln Gln Asp
 225 230 235 240
 Lys Thr Ala Ser Ile Asn Gln Asn Val Arg Ile Ala Lys Met Ser Leu
 245 250 255
 Ile Asp Leu Ala Gly Ser Glu Arg Ala Ser Thr Ser Gly Ala Lys Gly
 260 265 270
 Thr Arg Phe Val Glu Gly Thr Asn Ile Asn Arg Ser Leu Leu Ala Leu
 275 280 285
 Gly Asn Val Ile Asn Ala Leu Ala Asp Ser Lys Arg Lys Asn Gln His
 290 295 300
 Ile Pro Tyr Arg Asn Ser Lys Leu Thr Arg Leu Leu Lys Asp Ser Leu
 305 310 315 320
 Gly Gly Asn Cys Gln Thr Ile Met Ile Ala Ala Val Ser Pro Ser Ser
 325 330 335
 Val Phe Tyr Asp Asp Thr Tyr Asn Thr Leu Lys Tyr Ala Asn Arg Ala
 340 345 350
 Lys Asp Ile Lys Ser Ser Leu Lys Ser Asn Val Leu Asn Val Asn Asn
 355 360 365
 His Ile Thr Gln Tyr Val Lys Ile Cys Asn Glu Gln Lys Ala Glu Ile
 370 375 380
 Leu Leu Leu Lys Glu Lys Leu Lys Ala Tyr Glu Glu Gln Lys Ala Phe
 385 390 395 400
 Thr Asn Glu Asn Asp Gln Ala Lys Leu Met Ile Ser Asn Pro Gln Glu
 405 410 415
 Lys Glu Ile Glu Arg Phe Gln Glu Ile Leu Asn Cys Leu Phe Gln Asn
 420 425 430
 Arg Glu Glu Ile Arg Gln Glu Tyr Leu Lys Leu Glu Met Leu Leu Lys
 435 440 445
 Glu Asn Glu Leu Lys Ser Phe Tyr Gln Gln Gln Cys His Lys Gln Ile
 450 455 460

Glu	Met	Met	Cys	Ser	Glu	Asp	Lys	Val	Glu	Lys	Ala	Thr	Gly	Lys	Arg	465	470	475	480
Asp	His	Arg	Leu	Ala	Met	Leu	Lys	Thr	Arg	Arg	Ser	Tyr	Leu	Glu	Lys	485	490		495
Arg	Arg	Glu	Glu	Glu	Leu	Lys	Gln	Phe	Asp	Glu	Asn	Thr	Asn	Trp	Leu	500	505		510
His	Arg	Val	Glu	Lys	Glu	Met	Gly	Leu	Leu	Ser	Gln	Asn	Gly	His	Ile	515	520		525
Pro	Lys	Glu	Leu	Lys	Lys	Asp	Leu	His	Cys	His	His	Leu	His	Leu	Gln	530	535		540
Asn	Lys	Asp	Leu	Lys	Ala	Gln	Ile	Arg	His	Met	Met	Asp	Leu	Ala	Cys	545	550	555	560
Leu	Gln	Glu	Gln	Gln	His	Arg	Gln	Thr	Glu	Ala	Val	Leu	Asn	Ala	Leu	565	570		575
Leu	Pro	Thr	Leu	Arg	Lys	Gln	Tyr	Cys	Thr	Leu	Lys	Glu	Ala	Gly	Leu	580	585		590
Ser	Asn	Ala	Ala	Phe	Glu	Ser	Asp	Phe	Lys	Glu	Ile	Glu	His	Leu	Val	595	600		605
Glu	Arg	Lys	Lys	Val	Val	Val	Trp	Ala	Asp	Gln	Thr	Gly	Glu	Gln	Pro	610	615		620
Lys	Gln	Asn	Asp	Leu	Pro	Gly	Ile	Ser	Val	Leu	Met	Thr	Phe	Ser	Gln	625	630	635	640
Leu	Gly	Pro	Val	Gln	Pro	Ile	Pro	Cys	Cys	Ser	Ser	Ser	Gly	Gly	Thr	645	650		655
Asn	Leu	Val	Lys	Ile	Pro	Thr	Glu	Lys	Arg	Thr	Arg	Arg	Lys	Leu	Met	660	665		670
Pro	Ser	Pro	Leu	Lys	Gly	Gln	His	Thr	Leu	Lys	Ser	Pro	Pro	Ser	Gln	675	680		685
Ser	Val	Gln	Leu	Asn	Asp	Ser	Leu	Ser	Lys	Glu	Leu	Gln	Pro	Ile	Val	690	695	700	
Tyr	Thr	Pro	Glu	Asp	Cys	Arg	Lys	Ala	Phe	Gln	Asn	Pro	Ser	Thr	Val	705	710	715	720
Thr	Leu	Met	Lys	Pro	Ser	Ser	Phe	Thr	Thr	Ser	Phe	Gln	Ala	Ile	Ser	725	730		735
Ser	Asn	Ile	Asn	Ser	Asp	Asn	Cys	Leu	Lys	Met	Leu	Cys	Glu	Val	Ala	740	745		750
Ile	Pro	His	Asn	Arg	Arg	Lys	Glu	Cys	Gly	Gln	Glu	Asp	Leu	Asp	Ser	755	760		765

100

Thr Phe Thr Ile Cys Glu Asp Ile Lys Ser Ser Lys Cys Lys Leu Pro
770 775 780

Glu Gln Glu Ser Leu Pro Asn Asp Asn Lys Asp Ile Leu Gln Arg Leu
785 790 795 800

Asp Pro Ser Ser Phe Ser Thr Lys His Ser Met Pro Val Pro Ser Met
805 810 815

Val Pro Ser Tyr Met Ala Met Thr Thr Ala Ala Lys Arg Lys Arg Lys
820 825 830

Leu Thr Ser Ser Thr Ser Asn Ser Ser Leu Thr Ala Asp Val Asn Ser
835 840 845

Gly Phe Ala Lys Arg Val Arg Gln Asp Asn Ser Ser Glu Lys His Leu
850 855 860

Gln Glu Asn Lys Pro Thr Met Glu His Lys Arg Asn Ile Cys Lys Ile
865 870 875 880

Asn Pro Ser Met Val Arg Lys Phe Gly Arg Asn Ile Ser Lys Gly Asn
885 890 895

Leu Arg

<210> 260

<211> 71

<212> PRT

<213> Homo sapiens

<400> 260

Met Ser Lys Asp Arg Ala Asn Met Gln His Arg Tyr Ile Glu Leu Phe
1 5 10 15

Leu Asn Ser Thr Thr Gly Ala Ser Asn Gly Ala Tyr Ser Ser Gln Val
20 25 30

Met Gln Gly Met Gly Val Ser Ala Ala Gln Ala Thr Tyr Ser Gly Leu
35 40 45

Glu Ser Gln Ser Val Ser Gly Cys Tyr Gly Ala Gly Tyr Ser Gly Gln
50 55 60

Asn Ser Met Gly Gly Tyr Asp
65 70

<210> 261

<211> 592

<212> PRT

<213> Homo sapiens

<400> 261

Met Ala Pro Gly Gln Leu Ala Leu Phe Ser Val Ser Asp Lys Thr Gly
1 5 10 15

Leu Val Glu Phe Ala Arg Asn Leu Thr Ala Leu Gly Leu Asn Leu Val
 20 25 30

Ala Ser Gly Gly Thr Ala Lys Ala Leu Arg Asp Ala Gly Leu Ala Val
 35 40 45

Arg Asp Val Ser Glu Leu Thr Gly Phe Pro Glu Met Leu Gly Gly Arg
 50 55 60

Val Lys Thr Leu His Pro Ala Val His Ala Gly Ile Leu Ala Arg Asn
 65 70 75 80

Ile Pro Glu Asp Asn Ala Asp Met Ala Arg Leu Asp Phe Asn Leu Ile
 85 90 95

Arg Val Val Ala Cys Asn Leu Tyr Pro Phe Val Lys Thr Val Ala Ser
 100 105 110

Pro Gly Val Thr Val Glu Glu Ala Val Glu Gln Ile Asp Ile Gly Gly
 115 120 125

Val Thr Leu Leu Arg Ala Ala Ala Lys Asn His Ala Arg Val Thr Val
 130 135 140

Val Cys Glu Pro Glu Asp Tyr Val Val Val Ser Thr Glu Met Gln Ser
 145 150 155 160

Ser Glu Ser Lys Asp Thr Ser Leu Glu Thr Arg Arg Gln Leu Ala Leu
 165 170 175

Lys Ala Phe Thr His Thr Ala Gln Tyr Asp Glu Ala Ile Ser Asp Tyr
 180 185 190

Phe Arg Lys Gln Tyr Ser Lys Gly Val Ser Gln Met Pro Leu Arg Tyr
 195 200 205

Gly Met Asn Pro His Gln Thr Pro Ala Gln Leu Tyr Thr Leu Gln Pro
 210 215 220

Lys Leu Pro Ile Thr Val Leu Asn Gly Ala Pro Gly Phe Ile Asn Leu
 225 230 235 240

Cys Asp Ala Leu Asn Ala Trp Gln Leu Val Lys Glu Leu Lys Glu Ala
 245 250 255

Leu Gly Ile Pro Ala Ala Ala Ser Phe Lys His Val Ser Pro Ala Gly
 260 265 270

Ala Ala Val Gly Ile Pro Leu Ser Glu Asp Glu Ala Lys Val Cys Met
 275 280 285

Val Tyr Asp Leu Tyr Lys Thr Leu Thr Pro Ile Ser Ala Ala Tyr Ala
 290 295 300

Arg Ala Arg Gly Ala Asp Arg Met Ser Ser Phe Gly Asp Phe Val Ala
 305 310 315 320

Leu	Ser	Asp	Val	Cys	Asp	Val	Pro	Thr	Ala	Lys	Ile	Ile	Ser	Arg	Glu	325	330	335
Val	Ser	Asp	Gly	Ile	Ile	Ala	Pro	Gly	Tyr	Glu	Glu	Glu	Ala	Leu	Thr	340	345	350
Ile	Leu	Ser	Lys	Lys	Lys	Asn	Gly	Asn	Tyr	Cys	Val	Leu	Gln	Met	Asp	355	360	365
Gln	Ser	Tyr	Lys	Pro	Asp	Glu	Asn	Glu	Val	Arg	Thr	Leu	Phe	Gly	Leu	370	375	380
His	Leu	Ser	Gln	Lys	Arg	Asn	Asn	Gly	Val	Val	Asp	Lys	Ser	Leu	Phe	385	390	395
Ser	Asn	Val	Val	Thr	Lys	Asn	Lys	Asp	Leu	Pro	Glu	Ser	Ala	Leu	Arg	405	410	415
Asp	Leu	Ile	Val	Ala	Thr	Ile	Ala	Val	Lys	Tyr	Thr	Gln	Ser	Asn	Ser	420	425	430
Val	Cys	Tyr	Ala	Lys	Asn	Gly	Gln	Val	Ile	Gly	Ile	Gly	Ala	Gly	Gln	435	440	445
Gln	Ser	Arg	Ile	His	Cys	Thr	Arg	Leu	Ala	Gly	Asp	Lys	Ala	Asn	Tyr	450	455	460
Trp	Trp	Leu	Arg	His	His	Pro	Gln	Val	Leu	Ser	Met	Lys	Phe	Lys	Thr	465	470	475
Gly	Val	Lys	Arg	Ala	Glu	Ile	Ser	Asn	Ala	Ile	Asp	Gln	Tyr	Val	Thr	485	490	495
Gly	Thr	Ile	Gly	Glu	Asp	Glu	Asp	Leu	Ile	Lys	Trp	Lys	Ala	Leu	Phe	500	505	510
Glu	Glu	Val	Pro	Glu	Leu	Leu	Thr	Glu	Ala	Glu	Lys	Lys	Glu	Trp	Val	515	520	525
Glu	Lys	Leu	Thr	Glu	Val	Ser	Ile	Ser	Ser	Asp	Ala	Phe	Phe	Pro	Phe	530	535	540
Arg	Asp	Asn	Val	Asp	Arg	Ala	Lys	Arg	Ser	Gly	Val	Ala	Tyr	Ile	Ala	545	550	555
Ala	Pro	Ser	Gly	Ser	Ala	Ala	Asp	Lys	Val	Val	Ile	Glu	Ala	Cys	Asp	565	570	575
Glu	Leu	Gly	Ile	Ile	Leu	Ala	His	Thr	Asn	Leu	Arg	Leu	Phe	His	His	580	585	590

<210> 262
 <211> 62
 <212> PRT
 <213> Homo sapiens

<400> 262
 Met Phe Glu Leu Leu Pro Asn Cys Met Leu Phe Ile Leu Asn Ser Pro
 1 5 10 15
 Ser Asp Arg Ile Pro Arg Pro Arg Glu Val Lys Lys Thr Ser Pro Arg
 20 25 30
 Ser Ile Thr Leu Leu Leu Thr Ala Pro Asn Leu Leu Asp Ser Lys Ser
 35 40 45
 Asn Gly Phe Pro Gly Thr Met Met Leu Val Asp Leu Lys Lys
 50 55 60

<210> 263
 <211> 43
 <212> PRT
 <213> Homo sapiens

<400> 263
 Met Thr Ala Leu Phe Pro Gly Leu Ala Pro Glu Thr Glu Gln Pro Asp
 1 5 10 15
 Ile His Thr Pro Arg Arg Gln Leu Glu Val Pro Pro Gly Asn Gln Asn
 20 25 30
 His Pro Gln Arg Arg Pro Pro Asp Thr Asp Ile
 35 40

<210> 264
 <211> 303
 <212> PRT
 <213> Homo sapiens

<400> 264
 Met Lys Pro Thr Gly Thr Asp Pro Arg Ile Leu Ser Ile Ala Ala Glu
 1 5 10 15
 Val Ala Lys Ser Pro Glu Gln Asn Val Pro Val Ile Leu Leu Lys Leu
 20 25 30
 Lys Glu Ile Ile Asn Ile Thr Pro Leu Gly Ser Ser Glu Leu Lys Lys
 35 40 45
 Ile Lys Gln Asp Ile Tyr Cys Tyr Asp Leu Ile Gln Tyr Cys Leu Leu
 50 55 60
 Val Leu Ser Gln Asp Tyr Ser Arg Ile Gln Gly Gly Trp Thr Thr Ile
 65 70 75 80
 Ser Gln Leu Thr Gln Ile Leu Ser His Cys Cys Val Gly Leu Glu Pro
 85 90 95

Gly Glu Asp Ala Glu Glu Phe Tyr Asn Glu Leu Leu Pro Ser Ala Ala
 100 105 110
 Glu Asn Phe Leu Val Leu Gly Arg Gln Leu Gln Thr Cys Phe Ile Asn
 115 120 125
 Ala Ala Lys Ala Glu Glu Lys Asp Glu Leu Leu His Phe Phe Gln Ile
 130 135 140
 Val Thr Asp Ser Leu Phe Trp Leu Leu Gly Gly His Val Glu Leu Ile
 145 150 155 160
 Gln Asn Val Leu Gln Ser Asp His Phe Leu His Leu Leu Gln Ala Asp
 165 170 175
 Asn Val Gln Ile Gly Ser Ala Val Met Met Met Leu Gln Asn Ile Leu
 180 185 190
 Gln Ile Asn Ser Gly Asp Leu Leu Arg Ile Gly Arg Lys Ala Leu Tyr
 195 200 205
 Ser Ile Leu Asp Glu Val Ile Phe Lys Leu Phe Ser Thr Pro Ser Pro
 210 215 220
 Val Ile Arg Ser Thr Ala Thr Lys Leu Leu Leu Leu Met Ala Glu Ser
 225 230 235 240
 His Gln Glu Ile Leu Ile Leu Leu Arg Gln Ser Thr Cys Tyr Lys Gly
 245 250 255
 Leu Arg Arg Leu Leu Ser Lys Gln Glu Thr Gly Thr Glu Phe Ser Gln
 260 265 270
 Glu Leu Arg Gln Leu Val Gly Leu Leu Ser Pro Met Val Tyr Gln Glu
 275 280 285
 Val Glu Glu Gln Ile Gln Thr Ile Lys Asp Val Ala Gly Asp Lys
 290 295 300

 <210> 265
 <211> 264
 <212> PRT
 <213> Homo sapiens

 <400> 265
 Met Leu Leu Glu Ile Asn Arg Gln Lys Glu Glu Glu Asp Leu Lys Leu
 1 5 10 15
 Gln Leu Gln Leu Gln Arg Gln Arg Ala Met Arg Leu Ser Arg Glu Leu
 20 25 30
 Gln Leu Ser Met Leu Glu Ile Val His Pro Gly Gln Val Glu Lys His
 35 40 45
 Tyr Arg Glu Met Glu Glu Lys Ser Ala Leu Ile Ile Gln Lys His Trp
 50 55 60

Arg Gly Tyr Arg Glu Arg Lys Asn Phe His Gln Gln Arg Gln Ser Leu
 65 70 75 80
 Ile Glu Tyr Lys Ala Ala Val Thr Leu Gln Arg Ala Ala Leu Lys Phe
 85 90 95
 Leu Ala Lys Tyr Arg Lys Lys Lys Lys Leu Phe Ala Pro Trp Arg Gly
 100 105 110
 Leu Gln Glu Leu Thr Asp Ala Arg Arg Val Glu Leu Lys Lys Arg Val
 115 120 125
 Asp Asp Tyr Val Arg Arg His Leu Gly Ser Pro Met Ser Asp Val Val
 130 135 140
 Ser Arg Glu Leu His Ala Gln Ala Gln Glu Arg Leu Gln His Tyr Phe
 145 150 155 160
 Met Gly Arg Ala Leu Glu Glu Arg Ala Gln Gln His Arg Glu Ala Leu
 165 170 175
 Ile Ala Gln Ile Ser Thr Asn Val Glu Gln Leu Met Lys Ala Pro Ser
 180 185 190
 Leu Lys Glu Ala Glu Gly Lys Glu Pro Glu Leu Phe Leu Ser Arg Ser
 195 200 205
 Arg Pro Val Ala Ala Lys Ala Lys Gln Ala His Leu Thr Thr Leu Lys
 210 215 220
 His Ile Gln Ala Pro Trp Trp Lys Lys Leu Gly Glu Glu Ser Gly Asp
 225 230 235 240
 Glu Ile Asp Val Pro Lys Asp Glu Leu Ser Ile Glu Leu Glu Asn Leu
 245 250 255
 Phe Ile Gly Gly Thr Lys Pro Pro
 260

<210> 266

<211> 248

<212> PRT

<213> Homo sapiens

<400> 266

Met Ser Gly Gly Gly Val Ile Arg Gly Pro Ala Gly Asn Asn Asp Cys
 1 5 10 15
 Arg Ile Tyr Val Gly Asn Leu Pro Pro Asp Ile Arg Thr Lys Asp Ile
 20 25 30
 Glu Asp Val Phe Tyr Lys Tyr Gly Ala Ile Arg Asp Ile Asp Leu Lys
 35 40 45
 Asn Arg Arg Gly Gly Pro Pro Phe Ala Phe Val Glu Phe Glu Asp Pro
 50 55 60

Arg Asp Ala Glu Asp Ala Val Tyr Gly Arg Asp Gly Tyr Asp Tyr Asp
 65 70 75 80
 Gly Tyr Arg Leu Arg Val Glu Phe Pro Arg Ser Gly Arg Gly Thr Gly
 85 90 95
 Arg Gly Gly Gly Gly Gly Gly Gly Gly Gly Ala Pro Arg Gly Arg Tyr
 100 105 110
 Gly Pro Pro Ser Arg Arg Ser Glu Asn Arg Val Val Val Ser Gly Leu
 115 120 125
 Pro Pro Ser Gly Ser Trp Gln Asp Leu Lys Asp His Met Arg Glu Ala
 130 135 140
 Gly Asp Val Cys Tyr Ala Asp Val Tyr Arg Asp Gly Thr Gly Val Val
 145 150 155 160
 Glu Phe Val Arg Lys Glu Asp Met Thr Tyr Ala Val Arg Lys Leu Asp
 165 170 175
 Asn Thr Lys Phe Arg Ser His Glu Gly Glu Thr Ala Tyr Ile Arg Val
 180 185 190
 Lys Val Asp Gly Pro Arg Ser Pro Ser Tyr Gly Arg Ser Arg Ser Arg
 195 200 205
 Ser Arg Ser Arg Ser Arg Ser Arg Ser Arg Ser Asn Ser Arg Ser Arg
 210 215 220
 Ser Tyr Ser Pro Arg Arg Ser Arg Gly Ser Pro Arg Tyr Ser Pro Arg
 225 230 235 240
 His Ser Arg Ser Arg Ser Arg Thr
 245

<210> 267
 <211> 313
 <212> PRT
 <213> Homo sapiens

<400> 267
 Met Pro Val Ala Gly Ser Glu Leu Pro Arg Arg Pro Leu Pro Pro Ala
 1 5 10 15
 Ala Gln Glu Arg Asp Ala Glu Pro Arg Pro Pro His Gly Glu Leu Gln
 20 25 30
 Tyr Leu Gly Gln Ile Gln His Ile Leu Arg Cys Gly Val Arg Lys Asp
 35 40 45
 Asp Arg Thr Gly Thr Gly Thr Leu Ser Val Phe Gly Met Gln Ala Arg
 50 55 60
 Tyr Ser Leu Arg Asp Glu Phe Pro Leu Leu Thr Thr Lys Arg Val Phe
 65 70 75 80

Trp	Lys	Gly	Val	Leu	Glu	Glu	Leu	Leu	Trp	Phe	Ile	Lys	Gly	Ser	Thr	
				85					90							
Asn	Ala	Lys	Glu	Leu	Ser	Ser	Lys	Gly	Val	Lys	Ile	Trp	Asp	Ala	Asn	
				100					105							
Gly	Ser	Arg	Asp	Phe	Leu	Asp	Ser	Leu	Gly	Phe	Ser	Thr	Arg	Glu	Glu	
				115					120							
Gly	Asp	Leu	Gly	Pro	Val	Tyr	Gly	Phe	Gln	Trp	Arg	His	Phe	Gly	Ala	
				130					135							
Glu	Tyr	Arg	Asp	Met	Glu	Ser	Asp	Tyr	Ser	Gly	Gln	Gly	Val	Asp	Gln	
				145					150							
Leu	Gln	Arg	Val	Ile	Asp	Thr	Ile	Lys	Thr	Asn	Pro	Asp	Asp	Arg	Arg	
				165					170							
Ile	Ile	Met	Cys	Ala	Trp	Asn	Pro	Arg	Asp	Leu	Pro	Leu	Met	Ala	Leu	
				180					185							
Pro	Pro	Cys	His	Ala	Leu	Cys	Gln	Phe	Tyr	Val	Val	Asn	Ser	Glu	Leu	
				195					200							
Ser	Cys	Gln	Leu	Tyr	Gln	Arg	Ser	Gly	Asp	Met	Gly	Leu	Gly	Val	Pro	
				210					215							
Phe	Asn	Ile	Ala	Ser	Tyr	Ala	Leu	Leu	Thr	Tyr	Met	Ile	Ala	His	Ile	
				225					230							
Thr	Gly	Leu	Lys	Pro	Gly	Asp	Phe	Ile	His	Thr	Leu	Gly	Asp	Ala	His	
				245					250							
Ile	Tyr	Leu	Asn	His	Ile	Glu	Pro	Leu	Lys	Ile	Gln	Leu	Gln	Arg	Glu	
				260					265							
Pro	Arg	Pro	Phe	Pro	Lys	Leu	Arg	Ile	Leu	Arg	Lys	Val	Glu	Lys	Ile	
				275					280							
Asp	Asp	Phe	Lys	Ala	Glu	Asp	Phe	Gln	Ile	Glu	Gly	Tyr	Asn	Pro	His	
				290					295							
Pro	Thr	Ile	Lys	Met	Glu	Met	Ala	Val								
				305					310							

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<210> 268
<211> 511
<212> PRT
<213> Homo sapiens
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<400> 268
Met Ala Val Arg Leu Ala Gly Gly Leu Gln Lys Met Val Ala Leu Leu
  1             5             10             15

Asn Lys Thr Asn Val Lys Phe Leu Ala Ile Thr Thr Asp Cys Leu Gln
      20             25             30

```

Ile Leu Ala Tyr Gly Asn Gln Glu Ser Lys Leu Ile Ile Leu Ala Ser
 35 40 45
 Gly Gly Pro Gln Ala Leu Val Asn Ile Met Arg Thr Tyr Thr Tyr Glu
 50 55 60
 Lys Leu Leu Trp Thr Thr Ser Arg Val Leu Lys Val Leu Ser Val Cys
 65 70 75 80
 Ser Ser Asn Lys Pro Ala Ile Val Glu Ala Gly Gly Met Gln Ala Leu
 85 90 95
 Gly Leu His Leu Thr Asp Pro Ser Gln Arg Leu Val Gln Asn Cys Leu
 100 105 110
 Trp Thr Leu Arg Asn Leu Ser Asp Ala Ala Thr Lys Gln Glu Gly Met
 115 120 125
 Glu Gly Leu Leu Gly Thr Leu Val Gln Leu Leu Gly Ser Asp Asp Ile
 130 135 140
 Asn Val Val Thr Cys Ala Ala Gly Ile Leu Ser Asn Leu Thr Cys Asn
 145 150 155 160
 Asn Tyr Lys Asn Lys Met Met Val Cys Gln Val Gly Gly Ile Glu Ala
 165 170 175
 Leu Val Arg Thr Val Leu Arg Ala Gly Asp Arg Glu Asp Ile Thr Glu
 180 185 190
 Pro Ala Ile Cys Ala Leu Arg His Leu Thr Ser Arg His Gln Glu Ala
 195 200 205
 Glu Met Ala Gln Asn Ala Val Arg Leu His Tyr Gly Leu Pro Val Val
 210 215 220
 Val Lys Leu Leu His Pro Pro Ser His Trp Pro Leu Ile Lys Ala Thr
 225 230 235 240
 Val Gly Leu Ile Arg Asn Leu Ala Leu Cys Pro Ala Asn His Ala Pro
 245 250 255
 Leu Arg Glu Gln Gly Ala Ile Pro Arg Leu Val Gln Leu Leu Val Arg
 260 265 270
 Ala His Gln Asp Thr Gln Arg Arg Thr Ser Met Gly Gly Thr Gln Gln
 275 280 285
 Gln Phe Val Glu Gly Val Arg Met Glu Glu Ile Val Glu Gly Cys Thr
 290 295 300
 Gly Ala Leu His Ile Leu Ala Arg Asp Val His Asn Arg Ile Val Ile
 305 310 315 320
 Arg Gly Leu Asn Thr Ile Pro Leu Phe Val Gln Leu Leu Tyr Ser Pro
 325 330 335

Ile Glu Asn Ile Gln Arg Val Ala Ala Gly Val Leu Cys Glu Leu Ala
 340 345 350
 Gln Asp Lys Glu Ala Ala Glu Ala Ile Glu Ala Glu Gly Ala Thr Ala
 355 360 365
 Pro Leu Thr Glu Leu Leu His Ser Arg Asn Glu Gly Val Ala Thr Tyr
 370 375 380
 Ala Ala Ala Val Leu Phe Arg Met Ser Glu Asp Lys Pro Gln Asp Tyr
 385 390 395 400
 Lys Lys Arg Leu Ser Val Glu Leu Thr Ser Ser Leu Phe Arg Thr Glu
 405 410 415
 Pro Met Ala Trp Asn Glu Thr Ala Asp Leu Gly Leu Asp Ile Gly Ala
 420 425 430
 Gln Gly Glu Pro Leu Gly Tyr Arg Gln Asp Asp Pro Ser Tyr Arg Ser
 435 440 445
 Phe His Ser Gly Gly Tyr Gly Gln Asp Ala Leu Gly Met Asp Pro Met
 450 455 460
 Met Glu His Glu Met Gly Gly His His Pro Gly Ala Asp Tyr Pro Val
 465 470 475 480
 Asp Gly Leu Pro Asp Leu Gly His Ala Gln Asp Leu Met Asp Gly Leu
 485 490 495
 Pro Pro Gly Asp Ser Asn Gln Leu Ala Trp Phe Asp Thr Asp Leu
 500 505 510

<210> 269
 <211> 128
 <212> PRT
 <213> Homo sapiens

<400> 269
 Met Phe Asp Val Thr Ser Arg Val Thr Tyr Lys Asn Val Pro Asn Trp
 1 5 10 15
 His Arg Asp Leu Val Arg Val Cys Glu Asn Ile Pro Ile Val Leu Cys
 20 25 30
 Gly Asn Lys Val Asp Ile Lys Asp Arg Lys Val Lys Ala Lys Ser Ile
 35 40 45
 Val Phe His Arg Lys Lys Asn Leu Gln Tyr Tyr Asp Ile Ser Ala Lys
 50 55 60
 Ser Asn Tyr Asn Phe Glu Lys Pro Phe Leu Trp Leu Ala Arg Lys Leu
 65 70 75 80
 Ile Gly Asp Pro Asn Leu Glu Phe Val Ala Met Pro Ala Leu Ala Pro
 85 90 95

110

Pro Glu Val Val Met Asp Pro Ala Leu Ala Ala Gln Tyr Glu His Asp
100 105 110

Leu Glu Val Ala Gln Thr Thr Ala Leu Pro Asp Glu Asp Asp Asp Leu
115 120 125

<210> 270

<211> 506

<212> PRT

<213> Homo sapiens

<400> 270

Met Glu Asp His Gln His Val Pro Ile Asp Ile Gln Thr Ser Lys Leu
1 5 10 15

Leu Asp Trp Leu Val Asp Arg Arg His Cys Ser Leu Lys Trp Gln Ser
20 25 30

Leu Val Leu Thr Ile Arg Glu Lys Ile Asn Ala Ala Ile Gln Asp Met
35 40 45

Pro Glu Ser Glu Glu Ile Ala Gln Leu Leu Ser Gly Ser Tyr Ile His
50 55 60

Tyr Phe His Cys Leu Arg Ile Leu Asp Leu Leu Lys Gly Thr Glu Ala
65 70 75 80

Ser Thr Lys Asn Ile Phe Gly Arg Tyr Ser Ser Gln Arg Met Lys Asp
85 90 95

Trp Gln Glu Ile Ile Ala Leu Tyr Glu Lys Asp Asn Thr Tyr Leu Val
100 105 110

Glu Leu Ser Ser Leu Leu Val Arg Asn Val Asn Tyr Glu Ile Pro Ser
115 120 125

Leu Lys Lys Gln Ile Ala Lys Cys Gln Gln Leu Gln Gln Glu Tyr Ser
130 135 140

Arg Lys Glu Glu Glu Cys Gln Ala Gly Ala Ala Glu Met Arg Glu Gln
145 150 155 160

Phe Tyr His Ser Cys Lys Gln Tyr Gly Ile Thr Gly Glu Asn Val Arg
165 170 175

Gly Glu Leu Leu Ala Leu Val Lys Asp Leu Pro Ser Gln Leu Ala Glu
180 185 190

Ile Gly Ala Ala Ala Gln Gln Ser Leu Gly Glu Ala Ile Asp Val Tyr
195 200 205

Gln Ala Ser Val Gly Phe Val Cys Glu Ser Pro Thr Glu Gln Val Leu
210 215 220

Pro	Met	Leu	Arg	Phe	Val	Gln	Lys	Arg	Gly	Asn	Ser	Thr	Val	Tyr	Glu	225	230	235	240
Trp	Arg	Thr	Gly	Thr	Glu	Pro	Ser	Val	Val	Glu	Arg	Pro	His	Leu	Glu	245	250	255	
Glu	Leu	Pro	Glu	Gln	Val	Ala	Glu	Asp	Ala	Ile	Asp	Trp	Gly	Asp	Phe	260	265	270	
Gly	Val	Glu	Ala	Val	Ser	Glu	Gly	Thr	Asp	Ser	Gly	Ile	Ser	Ala	Glu	275	280	285	
Ala	Ala	Gly	Ile	Asp	Trp	Gly	Ile	Phe	Pro	Glu	Ser	Asp	Ser	Lys	Asp	290	295	300	
Pro	Gly	Gly	Asp	Gly	Ile	Asp	Trp	Gly	Asp	Asp	Ala	Val	Ala	Leu	Gln	305	310	315	320
Ile	Thr	Val	Leu	Glu	Ala	Gly	Thr	Gln	Ala	Pro	Glu	Gly	Val	Ala	Arg	325	330	335	
Gly	Pro	Asp	Ala	Leu	Thr	Leu	Leu	Glu	Tyr	Thr	Glu	Thr	Arg	Asn	Gln	340	345	350	
Phe	Leu	Asp	Glu	Leu	Met	Glu	Leu	Glu	Ile	Phe	Leu	Ala	Gln	Arg	Ala	355	360	365	
Val	Glu	Leu	Ser	Glu	Glu	Ala	Asp	Val	Leu	Ser	Val	Ser	Gln	Phe	Gln	370	375	380	
Leu	Ala	Pro	Ala	Ile	Leu	Gln	Gly	Gln	Thr	Lys	Glu	Lys	Met	Val	Thr	385	390	395	400
Met	Val	Ser	Val	Leu	Glu	Asp	Leu	Ile	Gly	Lys	Leu	Thr	Ser	Leu	Gln	405	410	415	
Leu	Gln	His	Leu	Phe	Met	Ile	Leu	Ala	Ser	Pro	Arg	Tyr	Val	Asp	Arg	420	425	430	
Val	Thr	Glu	Phe	Leu	Gln	Gln	Lys	Leu	Lys	Gln	Ser	Gln	Leu	Leu	Ala	435	440	445	
Leu	Lys	Lys	Glu	Leu	Met	Val	Gln	Lys	Gln	Gln	Glu	Ala	Leu	Glu	Glu	450	455	460	
Gln	Ala	Ala	Leu	Glu	Pro	Lys	Leu	Asp	Leu	Leu	Leu	Glu	Lys	Thr	Lys	465	470	475	480
Glu	Leu	Gln	Lys	Leu	Ile	Glu	Ala	Asp	Ile	Ser	Lys	Arg	Tyr	Ser	Gly	485	490	495	
Arg	Pro	Val	Asn	Leu	Met	Gly	Thr	Ser	Leu							500	505		

<210> 271
 <211> 136
 <212> PRT
 <213> Homo sapiens

<400> 271
 Met Thr Ser Leu Cys Met Ala Met Thr Glu Glu Gln His Lys Ser Val
 1 5 10 15
 Val Ile Asp Cys Ser Ser Ser Gln Pro Gln Phe Cys Asn Ala Gly Ser
 20 25 30
 Asn Arg Phe Cys Glu Asp Trp Met Gln Ala Phe Leu Asn Gly Ala Lys
 35 40 45
 Gly Gly Asn Pro Phe Leu Phe Arg Gln Val Leu Glu Asn Phe Lys Leu
 50 55 60
 Lys Ala Ile Gln Asp Thr Asn Asn Leu Lys Arg Phe Ile Arg Gln Ala
 65 70 75 80
 Glu Met Asn His Tyr Ala Leu Phe Lys Cys Tyr Met Phe Leu Lys Asn
 85 90 95
 Cys Gly Ser Gly Asp Ile Leu Leu Lys Ile Val Lys Val Glu His Glu
 100 105 110
 Glu Met Pro Glu Ala Lys Asn Val Ile Ala Val Leu Glu Glu Phe Met
 115 120 125
 Lys Glu Ala Leu Asp Gln Ser Phe
 130 135

<210> 272
 <211> 509
 <212> PRT
 <213> Homo sapiens

<400> 272
 Met Phe Thr Asn Asp Met Met Glu Cys Lys Gln Asp Glu Ile Val Met
 1 5 10 15
 Gln Gly Met Asp Pro Ser Ala Leu Glu Ala Leu Ile Asn Phe Ala Tyr
 20 25 30
 Asn Gly Asn Leu Ala Ile Asp Gln Gln Asn Val Gln Ser Leu Leu Met
 35 40 45
 Gly Ala Ser Phe Leu Gln Leu Gln Ser Ile Lys Asp Ala Cys Cys Thr
 50 55 60
 Phe Leu Arg Glu Arg Leu His Pro Lys Asn Cys Leu Gly Val Arg Gln
 65 70 75 80
 Phe Ala Glu Thr Met Met Cys Ala Val Leu Tyr Asp Ala Ala Asn Ser
 85 90 95

Phe	Ile	His	Gln	His	Phe	Val	Glu	Val	Ser	Met	Ser	Glu	Glu	Phe	Leu	100	105	110
Ala	Leu	Pro	Leu	Glu	Asp	Val	Leu	Glu	Leu	Val	Ser	Arg	Asp	Glu	Leu	115	120	125
Asn	Val	Lys	Ser	Glu	Glu	Gln	Val	Phe	Glu	Ala	Ala	Leu	Ala	Trp	Val	130	135	140
Arg	Tyr	Asp	Arg	Glu	Gln	Arg	Gly	Pro	Tyr	Leu	Pro	Glu	Leu	Leu	Ser	145	150	155
Asn	Ile	Arg	Leu	Pro	Leu	Cys	Arg	Pro	Gln	Phe	Leu	Ser	Asp	Arg	Val	165	170	175
Gln	Gln	Asp	Asp	Leu	Val	Arg	Cys	Cys	His	Lys	Cys	Arg	Asp	Leu	Val	180	185	190
Asp	Glu	Ala	Lys	Asp	Tyr	His	Leu	Met	Pro	Glu	Arg	Arg	Pro	His	Leu	195	200	205
Pro	Ala	Phe	Arg	Thr	Arg	Pro	Arg	Cys	Cys	Thr	Ser	Ile	Ala	Gly	Leu	210	215	220
Ile	Tyr	Ala	Val	Gly	Gly	Leu	Asn	Ser	Ala	Gly	Asp	Ser	Leu	Asn	Val	225	230	235
Val	Glu	Val	Phe	Asp	Pro	Ile	Ala	Asn	Cys	Trp	Glu	Arg	Cys	Arg	Pro	245	250	255
Met	Thr	Thr	Ala	Arg	Ser	Arg	Val	Gly	Val	Ala	Val	Val	Asn	Gly	Leu	260	265	270
Leu	Tyr	Ala	Ile	Gly	Gly	Tyr	Asp	Gly	Gln	Leu	Arg	Leu	Ser	Thr	Val	275	280	285
Glu	Ala	Tyr	Asn	Pro	Glu	Thr	Asp	Thr	Trp	Thr	Arg	Val	Gly	Ser	Met	290	295	300
Asn	Ser	Lys	Arg	Ser	Ala	Met	Gly	Thr	Val	Val	Leu	Asp	Gly	Gln	Ile	305	310	315
Tyr	Val	Cys	Gly	Gly	Tyr	Asp	Gly	Asn	Ser	Ser	Leu	Ser	Ser	Val	Glu	325	330	335
Thr	Tyr	Ser	Pro	Glu	Thr	Asp	Lys	Trp	Thr	Val	Val	Thr	Ser	Met	Ser	340	345	350
Ser	Asn	Arg	Ser	Ala	Ala	Gly	Val	Thr	Val	Phe	Glu	Gly	Arg	Ile	Tyr	355	360	365
Val	Ser	Gly	Gly	His	Asp	Gly	Leu	Gln	Ile	Phe	Ser	Ser	Val	Glu	His	370	375	380
Tyr	Asn	His	His	Thr	Ala	Thr	Trp	His	Pro	Ala	Ala	Gly	Met	Leu	Asn	385	390	395

Lys Arg Cys Arg His Gly Ala Ala Ser Leu Gly Ser Lys Met Phe Val
 405 410 415

Cys Gly Gly Tyr Asp Gly Ser Gly Phe Leu Ser Ile Ala Glu Met Tyr
 420 425 430

Ser Ser Val Ala Asp Gln Trp Cys Leu Ile Val Pro Met His Thr Arg
 435 440 445

Arg Ser Arg Val Ser Leu Val Ala Ser Cys Gly Arg Leu Tyr Ala Val
 450 455 460

Gly Gly Tyr Asp Gly Gln Ser Asn Leu Ser Ser Val Glu Met Tyr Asp
 465 470 475 480

Pro Glu Thr Asp Cys Trp Thr Phe Met Ala Pro Met Ala Cys His Glu
 485 490 495

Gly Gly Val Gly Val Gly Cys Ile Pro Leu Leu Thr Ile
 500 505

<210> 273

<211> 49

<212> PRT

<213> Homo sapiens

<400> 273

Met Ser Phe Ser Ala Ile Leu Ser Pro Phe Ser Ser Leu Ser Val Asn
 1 5 10 15

Val Arg Asn Leu Arg Gln Arg Gly Lys Gly Arg Gln Asn Ser Arg Ile
 20 25 30

Leu Thr Leu Ile Val Lys Ile Leu Phe Lys Thr Trp His Leu Ile Phe
 35 40 45

Leu

<210> 274

<211> 109

<212> PRT

<213> Homo sapiens

<400> 274

Met Glu Ser His Ser Val Thr Gln Ala Gly Val Gln Trp His Asp Leu
 1 5 10 15

Gly Ser Leu His Ser Pro Leu Leu Gly Ser Ser Asp Ser Pro Thr Ser
 20 25 30

Ala Ser Arg Val Ala Gly Ile Thr Gly Met Gln His His Thr Gln Leu
 35 40 45

Ile Phe Leu Phe Leu Val Glu Met Gly Phe His His Val Gly Gln Ala
 50 55 60

Gly Leu Lys Leu Leu Thr Ser Gly Asp Pro Pro Ala Ser Ala Ser Gln
 65 70 75 80

Ser Ala Gly Ile Thr Gly Val Gly His His Thr Trp Pro Ile Met Glu
 85 90 95

Asp Phe Leu Met Val Met Phe Glu Leu Gly Phe Gly Glu
 100 105

<210> 275

<211> 54

<212> PRT

<213> Homo sapiens

<400> 275

Met Glu Ser Asn Ile Ile Tyr Thr Pro Ser Leu Pro Leu Phe Leu Pro
 1 5 10 15

Pro Phe Leu Pro Pro Ser Leu Pro Pro Phe Leu Pro Pro Phe Ser Leu
 20 25 30

Ser Leu Ser Leu Pro Ala Ser Leu Pro Phe Phe Leu Leu Cys Leu Leu
 35 40 45

Pro Cys Asp Trp Gly Lys
 50

<210> 276

<211> 66

<212> PRT

<213> Homo sapiens

<400> 276

Met Leu Leu Tyr Arg Leu Ala Gln Leu Gly Leu Tyr Phe Leu Tyr Ser
 1 5 10 15

Met Pro Val Glu His Gln Met Leu Asn Thr Ser Thr Cys Cys Asp Phe
 20 25 30

Ala Ile Pro Ala His Ile Thr His Leu Ile Ser Phe Val Gly Gly His
 35 40 45

Val Gly Trp Pro Thr His Trp Gln Val Asn Ser Leu Ile Trp Thr Met
 50 55 60

Ser His
 65

<210> 277

<211> 180

<212> PRT

<213> Homo sapiens

<400> 277

Met Arg Pro Leu Thr Glu Glu Glu Thr Arg Val Met Phe Glu Lys Ile
 1 5 10 15

Ala Lys Tyr Ile Gly Glu Asn Leu Gln Leu Leu Val Asp Arg Pro Asp
 20 25 30

Gly Thr Tyr Cys Phe Arg Leu His Asn Asp Arg Val Tyr Tyr Val Ser
 35 40 45

Glu Lys Ile Met Lys Leu Ala Ala Asn Ile Ser Gly Asp Lys Leu Val
 50 55 60

Ser Leu Gly Thr Cys Phe Gly Lys Phe Thr Lys Thr His Lys Phe Arg
 65 70 75 80

Leu His Val Thr Ala Leu Asp Tyr Leu Ala Pro Tyr Ala Lys Tyr Lys
 85 90 95

Val Trp Ile Lys Pro Gly Ala Glu Gln Ser Phe Leu Tyr Gly Asn His
 100 105 110

Val Leu Lys Ser Gly Leu Gly Arg Ile Thr Glu Asn Thr Ser Gln Tyr
 115 120 125

Gln Gly Val Val Val Tyr Ser Met Ala Asp Ile Pro Leu Gly Phe Gly
 130 135 140

Val Ala Ala Lys Ser Thr Gln Asp Cys Arg Lys Val Asp Pro Met Ala
 145 150 155 160

Ile Val Val Phe His Gln Ala Asp Ile Gly Glu Tyr Val Arg His Glu
 165 170 175

Glu Thr Leu Thr
 180

<210> 278

<211> 34

<212> PRT

<213> Homo sapiens

<400> 278

Met Gly Leu Glu Arg Gly Phe Asp Pro Arg Ser Leu Cys Ala Phe Ala
 1 5 10 15

Ala Glu Pro His Asn Leu Ser Phe Gln Lys His Phe Gln Asn Ala Asn
 20 25 30

Ile Phe

<210> 279

<211> 168

<212> PRT

<213> Homo sapiens

<400> 279

Met Leu Arg Val Asn Phe Phe Phe Phe Phe Phe Phe Phe Ser Phe
 1 5 10 15

Ser Leu Arg Leu Gly Leu Ala Leu Leu Pro Arg Leu Glu Trp Ser Gly
 20 25 30

Val Ile Leu Ala Tyr Cys Ser Leu Cys Leu Pro Gly Ser Ser Ser Pro
 35 40 45

Ala Ser Ala Ser Gly Val Ala Gly Thr Thr Gly Ser Cys His His Gly
 50 55 60

Gln Pro Thr Phe Ala Cys Phe Val Lys Met Gly Ser His Ser Val Ala
 65 70 75 80

Gln Ala Gly Leu Lys Leu Leu Gly Ser Gly Asp Pro Pro Val Ser Ala
 85 90 95

Ser Gln Ser Ala Gly Ile Thr Ile Val Ser His His Val Gln Leu Glu
 100 105 110

Gly Ser Thr Ser Phe Thr Phe Cys Lys His Ile Cys Ile Phe Thr Pro
 115 120 125

Pro Phe Pro Ser Phe Ser Leu Phe Ile Ser His Phe Tyr Ile Asp Leu
 130 135 140

Leu Phe Tyr Asn Lys Thr Leu Leu Pro Lys Lys Lys Lys Lys Lys Lys
 145 150 155 160

Lys Lys Lys Lys Lys Lys Lys Lys Lys
 165

<210> 280

<211> 158

<212> PRT

<213> Homo sapiens

<400> 280

Met Met Ile Trp Ile His Gln Asp Leu Phe Tyr Ala Gln Gly Gln Phe
 1 5 10 15

Leu Phe Phe Phe Phe Phe Phe Phe Phe Phe Phe Glu Thr Gly Ser
 20 25 30

Arg Phe Val Ala Gln Ala Gly Val Glu Trp Arg Asp Leu Gly Leu Leu
 35 40 45

Gln Pro Leu Pro Pro Arg Leu Glu Gln Ser Cys Leu Ser Leu Arg Ser
 50 55 60

Ser Trp Asp His Arg Phe Met Pro Pro Trp Pro Ala Asn Phe Cys Met
 65 70 75 80

118

Phe	Cys	Lys	Asp	Gly	Val	Ser	Gln	Cys	Cys	Pro	Gly	Trp	Ser	Gln	Thr
				85					90					95	
Pro	Gly	Leu	Arg	Arg	Ser	Thr	Cys	Leu	Ser	Leu	Pro	Glu	Cys	Trp	Asp
			100					105					110		
Tyr	Asn	Cys	Glu	Pro	Pro	Arg	Pro	Ala	Gly	Arg	Val	Asn	Ile	Phe	Tyr
		115					120					125			
Ile	Leu	Gln	Ala	His	Leu	His	Phe	His	Pro	Thr	Leu	Pro	Leu	Leu	Leu
	130					135					140				
Pro	Phe	Tyr	Ile	Pro	Phe	Leu	Tyr	Arg	Ser	Leu	Ile	Leu	Gln		
145					150					155					

<210> 281
 <211> 43
 <212> PRT
 <213> Homo sapiens

<400> 281															
Met	Pro	Leu	Gly	Pro	Val	Gln	Val	Tyr	Leu	Ser	Leu	Ile	Ser	Glu	Ser
1				5					10					15	
Cys	Ser	Ser	Cys	Leu	Thr	Leu	Pro	His	Gly	Ser	Ser	Val	His	Leu	Ser
			20					25					30		
Ile	Thr	Val	Leu	Asn	Pro	Phe	Ser	Ile	Ser	Val					
		35					40								

<210> 282
 <211> 61
 <212> PRT
 <213> Homo sapiens

<400> 282															
Met	Lys	Lys	Leu	Thr	Leu	Pro	Met	Gly	Leu	Pro	Pro	Phe	Leu	Pro	Leu
1				5					10					15	
Phe	Ser	Leu	Trp	Tyr	Pro	Ser	Arg	Val	Phe	Pro	Ser	Pro	Leu	Gln	Ser
			20					25					30		
Pro	Ile	Ser	His	Leu	Phe	Phe	Phe	Ser	Pro	Ser	Ser	Phe	Ser	Tyr	Cys
		35					40					45			
Val	Leu	Pro	Ala	Thr	Ser	His	Arg	Leu	Val	Val	Tyr	Lys			
	50					55					60				

<210> 283
 <211> 207
 <212> PRT
 <213> Homo sapiens

<400> 283

Met Gln Lys Met Leu Pro Glu Ile Asp Gln Asn Lys Asp Arg Met Leu
 1 5 10 15
 Glu Ile Leu Glu Gly Lys Gly Leu Ser Phe Leu Phe Pro Leu Leu Lys
 20 25 30
 Leu Glu Lys Glu Leu Leu Lys Gln Ile Lys Leu Asp Pro Ser Pro Gln
 35 40 45
 Thr Ile Tyr Lys Trp Ile Lys Asp Asn Ile Ser Pro Lys Leu His Val
 50 55 60
 Asp Lys Gly Phe Val Asn Ile Leu Met Thr Ser Phe Leu Gln Tyr Ile
 65 70 75 80
 Ser Ser Glu Val Asn Pro Pro Ser Asp Glu Thr Asp Ser Ser Ser Ala
 85 90 95
 Pro Ser Lys Glu Gln Leu Glu Gln Glu Lys Gln Leu Leu Leu Ser Phe
 100 105 110
 Lys Pro Val Met Gln Lys Phe Leu His Asp His Val Asp Leu Gln Val
 115 120 125
 Ser Ala Leu Tyr Ala Leu Gln Val His Cys Tyr Asn Ser Asn Phe Pro
 130 135 140
 Lys Gly Met Leu Leu Arg Phe Phe Val His Phe Tyr Asp Met Glu Ile
 145 150 155 160
 Ile Glu Glu Glu Ala Phe Leu Ala Trp Lys Glu Asp Ile Thr Gln Glu
 165 170 175
 Phe Pro Gly Lys Gly Lys Ala Leu Phe Gln Val Asn Gln Trp Leu Thr
 180 185 190
 Trp Leu Glu Thr Ala Glu Glu Glu Glu Ser Glu Glu Glu Ala Asp
 195 200 205

<210> 284

<211> 105

<212> PRT

<213> Homo sapiens

<220>

<221> MOD_RES

<222> (80)

<223> Asp or Glu

<400> 284

Phe Ser Cys Leu Ser Phe Leu Ser Ser Trp Asp Tyr Arg His Ala Pro
 1 5 10 15
 Pro Cys Leu Ala Asn Phe Ala Phe Leu Val Glu Thr Gly Phe His His
 20 25 30

120

Val Gly Gln Ala Gly Leu Lys Leu Pro Thr Ser Gly Asp Leu Pro Thr
35 40 45
Ser Ala Ser Gln Ser Ala Gly Ile Thr Gly Met Ser Tyr Arg Ala Trp
50 55 60
Pro Val Tyr Phe Trp Arg Gln Ser Leu Ala Leu Leu Pro Arg Leu Xaa
65 70 75 80
Gly Ser Gly Ala Thr Leu Asn Ser Ala Ser Arg Val Gln Ala Ile Leu
85 90 95
Val Arg His Leu Pro Ser Ser Trp Gly
100 105

<210> 285
<211> 91
<212> PRT
<213> Homo sapiens

<400> 285
Leu Thr Ala Val Phe Phe Ser Phe Ile His Phe Ala Phe Phe Leu Tyr
1 5 10 15
Phe Arg Phe Asn Ser Thr Phe Lys Lys Ser Tyr Leu Tyr Ile Cys Ile
20 25 30
Phe Ile Phe Ile Phe Gln Asp Leu Ile Cys Leu Phe Phe Ile Met Gly
35 40 45
Tyr Tyr Cys Ser Met Val Gln Asn Leu Leu Phe Phe Pro Lys Leu Leu
50 55 60
Val Ile Phe Lys Ile Phe Val Asn Phe Leu Pro Leu Ala Ser Ser Gln
65 70 75 80
Val Pro Ala Phe Ser Gln Ser Ala Gly Phe Pro
85 90

<210> 286
<211> 75
<212> PRT
<213> Homo sapiens

<400> 286
Pro Lys Ser Leu Pro Gly His Pro Leu Ala Tyr Ser Leu Thr Gly His
1 5 10 15
Ala Pro Ala Val His Thr Gly Ser Tyr Gln Ser Ser Ser Trp Ala Pro
20 25 30
Phe Gln Thr Ser Glu Glu Ser Phe Gln His Glu Glu Gly Val Gln Asn
35 40 45
Lys Gln Arg Glu Arg Glu Arg Glu Arg Glu Arg Glu Arg Glu
50 55 60

Lys Arg Asn Ile Asn Asn Ala Gly Ser Lys Arg
 65 70 75

<210> 287
 <211> 83
 <212> PRT
 <213> Homo sapiens

<400> 287
 Met Tyr Cys Val Phe Asn Arg Asn Glu Asp Ala Cys Arg Tyr Gly Ser
 1 5 10 15
 Ala Ile Gly Val Leu Ala Ser Leu Ala Tyr Gln Arg Tyr Lys Ala Gly
 20 25 30
 Val Asp Asp Phe Ile Gln Asn Tyr Val Asp Pro Thr Pro Asp Pro Asn
 35 40 45
 Thr Ala Tyr Ala Ser Tyr Pro Gly Ala Ser Val Asp Asn Tyr Gln Gln
 50 55 60
 Pro Pro Phe Thr Gln Asn Ala Glu Thr Thr Glu Gly Tyr Gln Pro Pro
 65 70 75 80
 Pro Val Tyr

<210> 288
 <211> 117
 <212> PRT
 <213> Homo sapiens

<400> 288
 Met Val Arg Ala Thr Ala Met Pro Thr Ser Leu Ser Arg Cys Thr Ala
 1 5 10 15
 Cys Ser Thr Ala Thr Arg Met Pro Ala Ala Met Ala Val Pro Ser Gly
 20 25 30
 Cys Trp Pro Pro Trp Pro Thr Ser Ala Thr Arg Leu Ala Trp Thr Thr
 35 40 45
 Ser Ser Arg Ile Thr Leu Thr Pro Leu Arg Thr Pro Thr Leu Pro Thr
 50 55 60
 Pro Pro Thr Gln Val His Leu Trp Thr Thr Thr Asn Ser His Pro Ser
 65 70 75 80
 Pro Arg Thr Arg Arg Pro Pro Arg Ala Thr Ser Arg Pro Leu Cys Thr
 85 90 95
 Glu Arg Arg Leu Ala Trp Glu Gly Gly Gln Arg Gly Pro Ser Pro Leu
 100 105 110

Pro Trp Thr Phe Pro
115

<210> 289
<211> 1280
<212> DNA
<213> Homo sapiens

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<400> 289
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taactctggt aaagtggata ttgttgccat caatgacccc ttcatgacc tcaactacat 180
ggtttacatg ttccaatatg attccaccca tggcaaattc catggcaccg tcaaggctga 240
gaacgggaag cttgtcatca atggaaatcc catcaccatc ttccaggagc gagatccctc 300
caaaatcaag tggggcgatg ctggcgctga gtacgtcgtg gagtccactg gcgtcttcac 360
caccatggag aaggctgggg ctcatthtga ggggggagcc aaaagggtca tcatctctgc 420
cccctctgct gatgccccca tggtcgtcat ggggtgtgaac catgagaagt atgacaacag 480
cctcaagatc atcagcaatg cctcctgcac caccaactgc ttagcacccc tggccaagg 540
catccatgac aacttttgga tcgtggaagg actcatgacc acagtccatg ccatcactgc 600
caccagaag actgtggatg gccctccgg gaaactgtgg cgtgatggcc gcggggctct 660
ccagaacatc atccctgcct ctactggcgc tgccaaggct gtgggcaagg tcatccctga 720
gctgaacggg aagctcactg gcatggcctt ccgtgtcccc actgccaacg tgtcagtgg 780
ggacctgacc tgccgtctag aaaaacctgc caaatatgat gacatcaaga aggtggtgaa 840
gcaggcgctg gagggcccc ctcaaggcat cctgggctac actgagcacc aggtggtctc 900
ctctgacttc aacagcgaca cccactcctc cacctttgac gctggggctg gcattgccct 960
caacgaccac tttgtcaagc tcatttctct gtatgacaac gaatttggct acagcaacag 1020
ggtggtggac ctcatggccc acatggcctc caaggagtaa gaccctgga ccaccagccc 1080
cagcaagagc acaagaggaa gagagagacc ctactgctg gggagtccct gccacactca 1140
gtccccacc acactgaatc tcccctcctc acagttgcca tgtagacccc ttgaagagg 1200
gaggggccta gggagccgca ccttgtcatg taccatcaat aaagtaccct gtgctcaacc 1260
aaaaaaaaa aaaaaaaaaa                                     1280

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<210> 290
<211> 2978
<212> DNA
<213> Homo sapiens

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<400> 290
gccgtgagaa cacgctgtgt ggctgaaaag tgaaggcaag agctgatttg gcctctgtgc 60
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gcagacaagt taacgagaat tgctattgtc aaccatgaca aatgtaaacc taagaaatgt 180
cgacaggaat gcaaaaagag ttgtcctgta gttcgaatgg gaaaattatg catagagggt 240
acaccccaga gcaaaatagc atggatttcc gaaactcttt gtattgggtg tggatctgt 300
attaagaaat gcccttttgg cgccttatca attgtcaatc taccaagcaa cttggaaaaa 360
gaaaccacac atcgatatthg tgccaatgcc ttcaaaactc acaggttgcc tatccctcgt 420
ccagggtgaag ttttgggatt agttggaact aatgggtattg gaaagtcaac tgctttaaaa 480
atthtagcag gaaaacaaaa gccaaacctt ggaaagtacg atgacctcc tgactggcag 540
gagattttga cttatttccg tggatctgaa ttacaaaatt actttacaaa gattctagaa 600
gatgacctaa aagccatcat caaacctcaa tatgtagacc agattcctaa ggctgcaaag 660
gggacagtgg gatctattht ggaccgaaaa gatgaaacaa agacacaggc aattgtatgt 720
cagcagcttg atttaaccca cctaaaagaa cgaaatgttg aagatctttc aggaggagag 780
ttgcagagat ttgcttgtgc tgtcgtttgc atacagaaag ctgatatttt catgtttgat 840
gagccttcta gttacctaga tgtcaagcag cgtttaaagg ctgctattac tatacgatct 900
ctaataaatc cagatagata tatcattgtg gtggaacatg atctaagtgt attagactat 960
ctctccgact tcatctgctg tttatatggg gtaccaagcg cctatggagt tgtcactatg 1020
ccttttagtg taagagaagg cataaacatt tttttggatg gctatgttcc aacagaaaaa 1080

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ttgagattca	gagatgcatc	acttggtttt	aaagtggctg	agacagcaaa	tgaagaagaa	1140
gttaaaaaga	tgtgtatgta	taaatatcca	ggaatgaaga	aaaaaatggg	agaatttgag	1200
ctagcaattg	tagctggaga	gtttacagat	tctgaaatta	tggtgatgct	gggggaaaat	1260
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ggagaagtac	cagttctaaa	tgtcagttat	aagccacaga	aaattagtcc	caaatcaact	1380
ggaagtgttc	gccagttact	acatgaaaag	ataagagatg	cttataactca	cccacaattt	1440
gtgaccgatg	taatgaagcc	tctgcaaatt	gaaaacatca	ttgatcaaga	ggtgcagaca	1500
ttatctgggtg	gtgaactaca	gcgagtagct	ttagcccttt	gcttgggcaa	acctgctgat	1560
gtctatttta	ttgatgaacc	atctgcatat	ttggattctg	agcaaagact	gatggcagct	1620
cgagttgtca	aacgtttcat	actccatgca	aaaaagacag	cctttgttgt	ggaacatgac	1680
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cttgaaatta	cattcagaag	agatccaaac	aactatagga	cacgaataaa	caaacttaat	1860
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gactctgaga	atattgataa	gccatttatt	aaaaggagta	tttactagaa	ttttttgtca	1980
tataaaactt	gaatcaggat	tttatgcccc	acatactctg	gaacttgaag	tataatatac	2040
ttaatataac	ataaaaagcc	agttgggttc	taaattgtag	ttgaaacaca	gaaaatgcca	2100
cttttctggt	cctgaagagg	ctcttttgtg	cataatattc	taaaatgaag	acatttcaag	2160
ctatacaaat	tacttccaag	ttttcatgat	gtatgggaag	attttccagta	ggtgtattat	2220
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tgtacttacc	tggtttgccca	agtatgccag	tgtaatgaaa	ctgcccttat	tttaaaagcc	2340
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gttttcagtc	tttgactcat	attaccagta	tatggtttcc	gaggaagatt	atctactgca	2460
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taaacatggt	tagcaaaaaa	caattcagtt	ccattccccg	caaaaaaccc	ctaactttac	2580
tctgaacttt	ttttgttttt	gcattccatg	aggttctgta	ttcagtcatt	ctctaggtaa	2640
tgtcattttt	gtacacatat	atztatataa	tcactgattg	agatttagga	aaaagcattt	2700
ctaaagaata	tttgcttccc	ttagaactac	agactcgaaa	tctttaaaga	tggtgcctaa	2760
gcatctatgt	atttttttta	agttccacag	atttttctgt	tgggcagcca	aggattataa	2820
accacttccc	taaaggcaac	attaatgcaa	aagccccac	cccatggctt	ccatcttttg	2880
catcaccacc	actcctgaac	ccccatttct	gatttgtcag	aatttttttt	taacaaaact	2940
aaaaatgaaa	aaaaaaaaaa	aaaaaaaaaa	aaaaaaaaa			2978

<210> 291

<211> 1218

<212> DNA

<213> Homo sapiens

<400> 291

gaagttactg	cagccgcggg	gttgtgctgt	ggggaaggga	gaaggatttg	taaaccccg	60
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catcatgtct	gaccaggagg	caaaaccttc	aactgaggac	ttgggggata	agaaggaagg	180
tgaatatatt	aaactcaaag	tcattggaca	ggatagcagt	gagattcact	tcaaagtga	240
aatgacaaca	catctcaaga	aactcaaaga	atcatactgt	caaagacagg	gtgttccaat	300
gaattcactc	aggtttctct	ttgagggtca	gagaattgct	gataatcata	ctccaaaaga	360
actgggaatg	gaggaagaag	atgtgattga	agtttatcag	gaacaaacgg	ggggtcattc	420
aacagtttag	atattctttt	tatttttttt	cttttccttc	aatccttttt	tattttttaa	480
aatagttcct	ttgtaatgtg	gtgttcaaaa	cggaattgaa	aactggcacc	ccatctcttt	540
gaaacatctg	gtaatttgaa	ttctagtgtc	cattattcat	tattgtttgt	tttcattgtg	600
ctgatttttg	gtgatcaagc	ctcagtcctc	ttcatattac	cctctccttt	ttaaaaatta	660
cgtgtgcaca	gagagggtcac	ctttttcagg	acattgcatt	ttcaggcttg	tggtgataaa	720
taagatcgac	caatgcaagt	gttcataatg	actttccaat	tggccctgat	gttctagcat	780
gtgattactt	cactcctgga	ctgtgacttt	cagtgggaga	tggaaagttt	tcagagaact	840
gaactgtgga	aaaatgacct	ttccttaact	tgaagctact	tttaaaattt	gagggctctg	900
accaaaagaa	gaggaatata	aggttgaagt	caagatgaca	gataaggtga	gagtaatgac	960
taactccaaa	gatggcttca	ctgaagaaaa	ggcattttta	gattttttta	aaatcttgct	1020
agaagatccc	agaaaagttc	taattttcat	tagcaattaa	taaagctata	catgcagaaa	1080

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tgaataacaac agaacactgc tctttttgat tttatttgta ctttttggcc tgggatatgg 1140
gtttttaaatg gacattgtct gtaccagctt cattaaaata aacaatatat gtaaaaatca 1200
aaaaaaaaaa aaaaaaaaaa                                     1218

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<210> 292
<211> 825
<212> DNA
<213> Homo sapiens

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<400> 292
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tatggccaca gaagttgctg ctgacgctct ggggtgaagaa tgggaagggtt atgtgggtccg 180
aatcagtggt gggaacgaca aacaagggtt ccccatgaag cagggtgtct tgacccatgg 240
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aagaaagaga aaatcagttc gtggttgcat tgtggatgca aatctgagcg ttctcaactt 360
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<210> 293
<211> 1978
<212> DNA
<213> Homo sapiens

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<400> 293
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tctgctttga ctgtacaatt tgttcaagga atctttttag aaaaatacga tcctacgata 240
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aatgtaaaact	aaaagcctta	attaaagtgg	tgcaattttg	tataacttag	catcagtagt	1920
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<210> 294

<211> 895

<212> DNA

<213> Homo sapiens

<400> 294

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<210> 295

<211> 1358

<212> DNA

<213> Homo sapiens

<400> 295

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cctactgttt	ccgtctgcac	aacgaccggg	tgtactatgt	gagtgagaag	attatgaagc	180
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aaggattttc	ttttttatta	atatgcaaca	tagacattgc	cataacagaa	taataaacca	960
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agacacaaaaa cttgaaaatc agcttttgcc atctacctga gaattagaaa gtctgatttt 1200
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catggtgaaa ccccatctct actaaaaaaa aaaaaaaa 1358

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<210> 296
<211> 2033
<212> DNA
<213> Homo sapiens

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<400> 296
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<210> 297
<211> 1059
<212> DNA
<213> Homo sapiens

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<400> 297
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ggaggaggtc gttcagattc taggagataa gtttccatgc actttggtgg cacagaaaat 180
tgacctgccg gagtaccaag gggagccgga tgagatttcc atacagaaat gtcaggaggc 240

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agttcgccag gtacaggggc ccgtgctggt tgaggacact tgtctgtgct tcaatgccct 300
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ccaccagctc ctggccgggt tcgaggacaa gtcagcctat gcgctctgca cgtttgcact 420
cagcaccggg gacccaagcc agcccgtgcg cctgttcagg gcccgacact cgggccggat 480
cgtggcacc cagaggtgcc aggaactttg ctgggacccc tgctttcagc ctgatggata 540
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cgcttccat ggtttttaaa tgcagtaaat aacatttctg gatgagactt gtttccaaaa 1020
taaaccagct atatctgttt tgaaaaaaaa aaaaaaaaaa 1059

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<210> 298

<211> 1769

<212> DNA

<213> Homo sapiens

<400> 298

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aaccttcatt cttactagtt tcatttcaat caagatgtca aattgaataa aaatcacagc 1740
aatctttgaa aaaaaaaaaa aaaaaaaaaa 1769

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<210> 299

<211> 463

<212> DNA

<213> Homo sapiens

<400> 299

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tttctcactg tgatgatgaa gcatgggttac attggcgaat ttgaaatcat tgatgaccac 180
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cccagatttg acgtgcaact caaagacctg gaaaaatggc agaataatct gcttccatcc 300
cgccagtttg gtttcattgt actgacaacc tcagctggca tcatggacca tgaagaagca 360
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atttacaat aaaatgcctc atggacaaaa aaaaaaaaaa aaa 463

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<210> 300

<211> 703

<212> DNA

<213> Homo sapiens

<400> 300

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<210> 301

<211> 887

<212> DNA

<213> Homo sapiens

<400> 301

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<210> 302
 <211> 905
 <212> DNA
 <213> Homo sapiens

<400> 302
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<210> 303
 <211> 1832
 <212> DNA
 <213> Homo sapiens

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tttattttgta agtaggctgg ataaatgggtg cttaaatgggt aatgtactcc actttcttcc 1740
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attgctcaag agtatgtaaa aaaaaaaaaa aa 1832

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<210> 304
<211> 1824
<212> DNA
<213> Homo sapiens

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<210> 305
<211> 759
<212> DNA
<213> Homo sapiens

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```

<400> 305
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cccgcgcgat ccacacagtc cgtgtgcggg gaggtaaaca gaaataaccgt gccctgaggt 180
tggacgtggg gaattttctc tggggctcag agtgttgtac tcgtaaaaca aggatcatcg 240
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gcatcgctgt catcgacagc acaccgtacc gacagtggta cgagtccac tatgcgctgc 360
ccctgggccc caagaaggga gccaaagctga ctctgagga agaagagatt ttaaacaaaa 420
aacgatctaa aaaaattcag aagaaatat atgaaaggaa aaagaatgcc aaaatcagca 480

```

```

gtctcctgga ggagcagttc cagcagggca agcttcttgc gtgcatcgct tcaaggccgg 540
gacagtgtgg ccgagcagat ggctatgtgc tagagggcaa agagttggag ttctatctta 600
ggaaaatcaa ggcccgc aaa ggcaaataaa tccttgTTTT gtcttcaccc atgtaataaa 660
ggtgtttatt gttttgttcc caaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa 720
aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa 759

```

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<210> 306
<211> 938
<212> DNA
<213> Homo sapiens

```

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<400> 306
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tcgcccgcct gacgaccgcg tccacctcgc aggtgcgcca gaactaccac caggactcag 240
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tgaatgcaat ggagtgtgca ttacatttgg aaaaaaatgt gaatcagtca ctactggaac 540
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tggtcaccaa ggcagtgcac gcatgttggg gtttctctta ccttttctat aagttgtacc 840
aaaacatcca cttaagtctt ttgatttcta ccattccttc aaataaagaa atttggtaaa 900
aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa 938

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```

<210> 307
<211> 1281
<212> DNA
<213> Homo sapiens

```

```

<400> 307
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agccggtcca cctcacagcc ttcttgggat acaaggctgg catgactcac atcgtgcggg 180
aagtcgacag gccgggatcc aagggtgaaca agaaggagggt ggtggaggct gtgaccattg 240
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tccggacctt caagactgtc tttgctgagc acatcagtga tgaatgcaag aggcgtttct 360
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tcatccgtgt cattgcccac acccagatgc gcctgcttcc tctgcgccag aagaaggccc 540
acctgatgga gatccagggtg aacggaggca ctgtggccga gaagctggac tgggcccgcg 600
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atccccact gaaaaaaaaa a

1281

<210> 308

<211> 1698

<212> DNA

<213> Homo sapiens

<400> 308

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gctttcctcc cccatctaca tcgatctgcg gggcatcggt tctcgaccgc gtcttctgag 180
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ttaggaaata ttgagtaatt tgtaatcacc gcattgatac tataataagt tcattcttaa 1680
aaaaaaaaa aaaaaaaaaa                                     1698

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<210> 309

<211> 1102

<212> DNA

<213> Homo sapiens

<400> 309

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gttataaatg gttataaagc tcctgttact catattagtt atttacatca aaaagctttt 60
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gttttactat tctggtgctg cttcataaca aaaatgaaaa gctgcatgca tctacagcag 180
gcatggattg tttatgtcgt atgatatcct ttattaagta agttcactta tagtatttct 240
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tggcaagaat atcctaaatg tcattaaaat cctccaacat gatggatcta cttatggctc 360
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aataaaactg tctttggcag tgagtaaata gcataatttg aagtagagtt gtatactttt 600
tcataagatg tttgggaatt tttttcctga agtaataatt tattccacat ctacatcagt 660
gaaagctatc tacctatcct gagtctatct taaaggaaaa aaagaaaaaa accttatctc 720

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ttgcccttat tttgaatttt ccactctttc attaatattgt ttttaagctcc gtggttgaaa 780
aaaggggtag tgcattttta attgaccttc atacgctttt aaaataagac aaatctactt 840
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gtgccatgtt gatgtacagt ttctgaaatt gttttacaag actttgataa taaaaccctt 1080
aaacttaaaa aaaaaaaaaa aa                                     1102

```

<210> 310

<211> 519

<212> DNA

<213> Homo sapiens

<400> 310

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tcaaaagtca aggcattcatt taaaataatc tgatttcaga caaatgctgt gtggaaacat 60
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ttgtgttgtg atattgtgtc ctaaattgct catataattt tatttacaga ttgaaaaaga 180
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ttggaaaacg tagccttcat tttatgattt tttcatatgt ggaaatctat tacatgtaat 360
acaaaacaaa catgtagttt gaaggcggtc agatttcttt gagaaatctt tgtagagtta 420
attttatgga aattaaaatc agaattaaat gctaaaaaaa aaaaaaaaaa aaaaaaaaaa 480
taaaaaaaaa aaaaaataaa aaaaaaaaaa aaaaaaaaaa                                     519

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<210> 311

<211> 2335

<212> DNA

<213> Homo sapiens

<400> 311

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gcaagactga gaaagaagcc aaggccccc gggagttgaa gaaagacccc aaaccgagt 660
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<210> 312

<211> 1027

<212> DNA

<213> Homo sapiens

<400> 312

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<211> 1068

<212> DNA

<213> Homo sapiens

<400> 313

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<211> 810

<212> DNA

<213> Homo sapiens

<400> 314

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<211> 2505

<212> DNA

<213> Homo sapiens

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<211> 1588

<212> DNA

<213> Homo .sapiens

<400> 316

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 <212> DNA
 <213> Homo sapiens

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 <211> 3476
 <212> DNA
 <213> Homo sapiens

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<210> 319

<211> 1665

<212> DNA

<213> Homo sapiens .

<400> 319

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<211> 1571

<212> DNA

<213> Homo sapiens

<400> 320

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<210> 321
 <211> 1549
 <212> DNA
 <213> Homo sapiens

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<400> 321
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<210> 322
 <211> 2064
 <212> DNA
 <213> Homo sapiens

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<210> 323

<211> 1317

<212> DNA

<213> Homo sapiens

<400> 323

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tctttaaaac catatcagag atgcatacaa agaattatat ataaagaagg gtgtttaata 240
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<210> 324

<211> 1483

<212> DNA

<213> Homo sapiens

<400> 324

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<210> 325

<211> 1067

<212> DNA

<213> Homo sapiens

<400> 325

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<210> 326

<211> 915

<212> DNA

<213> Homo sapiens

<400> 326

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<210> 327

<211> 2338

<212> DNA

<213> Homo sapiens

<400> 327

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<210> 328

<211> 2519

<212> DNA

<213> Homo sapiens

<400> 328

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 <213> Homo sapiens

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<211> 964

<212> DNA

<213> Homo sapiens

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<211> 1937

<212> DNA

<213> Homo sapiens

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<211> 2029

<212> DNA

<213> Homo sapiens

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<211> 2923

<212> DNA

<213> Homo sapiens

<400> 334

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<210> 346

<211> 1358

<212> DNA

<213> Homo sapiens

<400> 346

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<210> 347

<211> 1047

<212> DNA

<213> Homo sapiens

<400> 347

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g t t t g a t c c c	a g g t c c c t c t	g t g c t t t t g c	t g c t g a g c c a	c a c a a c c t c t	c a t t t c a a a a	600
a c a c t t t c a a	a a t g c t a a c a	t a t t c t a a t t	c a c t c t a g g c	c a c c a a a a a c	t t t a a t a c t a	660
a t a t c t g a t t	t g t a a a t g a c	t t a a t g t a t c	c t t g a c c c t a	t c a g c t g a a t	t t a a t g a a a t	720
a t t c c t c t c t	g c t g t g a a a t	t t t a c c a g t a	t a g t a t t t g g	t c t a g t g a c a	g a g c g a g a c t	780
c c g t c t a c a c	a c a c a c a c a c	a c a c a c a c a c	a c a t c c t t c c	t c c t c t a a c c	c c a a a c t a a g	840
a t c a c a g a a g	g t g a t c c a g t	c a g a g a a c a g	a g g g a a a t c t	t a c c a g g a a g	g g c t t a a g t a	900
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a t g t a t a c c t	g t g a a a g c a t	c a c c a c a a t c	a a g a c a c t g g	a c a t a t c t a t	c a c a c c c c a t	1020
c c t a a a a a a a	a a a a a a a a a a	a a a a a a a				1047

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<210> 348
<211> 1306
<212> DNA
<213> Homo sapiens
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<211> 341
<212> DNA
<213> Homo sapiens
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ctcttgggtcc tgtccaagtg tatctttcac tgatttctga atcatgttct agttgtctga 180
ccctgccaca tgggtccagt gttcatctga gcataactgt actaaatcct ttttccatat 240
cagtataata aaggagtgat gtgcaataaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa 300
aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa a 341

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<210> 350
 <211> 791
 <212> DNA
 <213> Homo sapiens

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 <211> 1474
 <212> DNA
 <213> Homo sapiens

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 <211> 2932
 <212> DNA
 <213> Homo sapiens

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 <223> a, c, g, t, unknown or other

<400> 352
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<211> 1254
<212> DNA
<213> Homo sapiens

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<213> Homo sapiens

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<210> 355

<211> 2303

<212> DNA

<213> Homo sapiens

<400> 355

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<210> 356

<211> 361

<212> PRT

<213> Homo sapiens

<400> 356

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			20					25					30		
Ser	Pro	Gly	Pro	Thr	Gly	Gln	Pro	Arg	Arg	Pro	Arg	Asn	Leu	Ala	Ala
		35					40					45			
Ala	Ala	Val	Glu	Glu	Tyr	Ser	Cys	Glu	Phe	Gly	Ser	Ala	Lys	Tyr	Tyr
		50				55					60				
Ala	Leu	Cys	Gly	Phe	Gly	Gly	Val	Leu	Ser	Cys	Gly	Leu	Thr	His	Thr
65					70					75					80
Ala	Val	Val	Pro	Leu	Asp	Leu	Val	Lys	Cys	Arg	Met	Gln	Val	Asp	Pro
				85					90					95	
Gln	Lys	Tyr	Lys	Gly	Ile	Phe	Asn	Gly	Phe	Ser	Val	Thr	Leu	Lys	Glu
			100					105					110		
Asp	Gly	Val	Arg	Gly	Leu	Ala	Lys	Gly	Trp	Ala	Pro	Thr	Phe	Leu	Gly
		115					120					125			
Tyr	Ser	Met	Gln	Gly	Leu	Cys	Lys	Phe	Gly	Phe	Tyr	Glu	Val	Phe	Lys
		130				135					140				
Val	Leu	Tyr	Ser	Asn	Met	Leu	Gly	Glu	Glu	Asn	Thr	Tyr	Leu	Trp	Arg
145					150					155					160
Thr	Ser	Leu	Tyr	Leu	Ala	Ala	Ser	Ala	Ser	Ala	Glu	Phe	Phe	Ala	Asp
				165					170					175	
Ile	Ala	Leu	Ala	Pro	Met	Glu	Ala	Ala	Lys	Val	Arg	Ile	Gln	Thr	Gln
			180					185					190		
Pro	Gly	Tyr	Ala	Asn	Thr	Leu	Arg	Asp	Ala	Ala	Pro	Lys	Met	Tyr	Lys
		195					200					205			
Glu	Glu	Gly	Leu	Lys	Ala	Phe	Tyr	Lys	Gly	Val	Ala	Pro	Leu	Trp	Met
		210				215					220				
Arg	Gln	Ile	Pro	Tyr	Thr	Met	Met	Lys	Phe	Ala	Cys	Phe	Glu	Arg	Thr
225					230					235					240
Val	Glu	Ala	Leu	Tyr	Lys	Phe	Val	Val	Pro	Lys	Pro	Arg	Ser	Glu	Cys
				245					250					255	
Ser	Lys	Pro	Glu	Gln	Leu	Val	Val	Thr	Phe	Val	Ala	Gly	Tyr	Ile	Ala
			260					265					270		
Gly	Val	Phe	Cys	Ala	Ile	Val	Ser	His	Pro	Ala	Asp	Ser	Val	Val	Ser
		275					280					285			
Val	Leu	Asn	Lys	Glu	Lys	Gly	Ser	Ser	Ala	Ser	Leu	Val	Leu	Lys	Arg
		290				295					300				

165

Leu Gly Phe Lys Gly Val Trp Lys Gly Leu Phe Ala Arg Ile Ile Met
305 310 315 320

Ile Gly Thr Leu Thr Ala Leu Gln Trp Phe Ile Tyr Asp Ser Val Lys
325 330 335

Val Tyr Phe Arg Leu Pro Arg Pro Pro Pro Pro Glu Met Pro Glu Ser
340 345 350

Leu Lys Lys Lys Leu Gly Leu Thr Gln
355 360

<210> 357

<211> 640

<212> PRT

<213> Homo sapiens

<400> 357

Met Glu Ser Val Val Arg Arg Cys Pro Phe Leu Ser Arg Val Pro Gln
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Ala Phe Leu Gln Lys Ala Gly Lys Ser Leu Leu Phe Tyr Ala Gln Asn
20 25 30

Cys Pro Lys Met Met Glu Val Gly Ala Lys Pro Ala Pro Arg Ala Leu
35 40 45

Ser Thr Ala Ala Val His Tyr Gln Gln Ile Lys Glu Thr Pro Pro Ala
50 55 60

Ser Glu Lys Asp Lys Thr Ala Lys Ala Lys Val Gln Gln Thr Pro Asp
65 70 75 80

Gly Ser Gln Gln Ser Pro Asp Gly Thr Gln Leu Pro Ser Gly His Pro
85 90 95

Leu Pro Ala Thr Ser Gln Gly Thr Ala Ser Lys Cys Pro Phe Leu Ala
100 105 110

Ala Gln Met Asn Gln Arg Gly Ser Ser Val Phe Cys Lys Ala Ser Leu
115 120 125

Glu Leu Gln Glu Asp Val Gln Glu Met Asn Ala Val Arg Lys Glu Val
130 135 140

Ala Glu Thr Ser Ala Gly Pro Ser Val Val Ser Val Lys Thr Asp Gly
145 150 155 160

Gly Asp Pro Ser Gly Leu Leu Lys Asn Phe Gln Asp Ile Met Gln Lys
165 170 175

Gln Arg Pro Glu Arg Val Ser His Leu Leu Gln Asp Asn Leu Pro Lys
180 185 190

Ser Val Ser Thr Phe Gln Tyr Asp Arg Phe Phe Glu Lys Lys Ile Asp
195 200 205

Glu	Lys	Lys	Asn	Asp	His	Thr	Tyr	Arg	Val	Phe	Lys	Thr	Val	Asn	Arg	210	215	220
Arg	Ala	His	Ile	Phe	Pro	Met	Ala	Asp	Asp	Tyr	Ser	Asp	Ser	Leu	Ile	225	230	235
Thr	Lys	Lys	Gln	Val	Ser	Val	Trp	Cys	Ser	Asn	Asp	Tyr	Leu	Gly	Met	245	250	255
Ser	Arg	His	Pro	Arg	Val	Cys	Gly	Ala	Val	Met	Asp	Thr	Leu	Lys	Gln	260	265	270
His	Gly	Ala	Gly	Ala	Gly	Gly	Thr	Arg	Asn	Ile	Ser	Gly	Thr	Ser	Lys	275	280	285
Phe	His	Val	Asp	Leu	Glu	Arg	Glu	Leu	Ala	Asp	Leu	His	Gly	Lys	Asp	290	295	300
Ala	Ala	Leu	Leu	Phe	Ser	Ser	Cys	Phe	Val	Ala	Asn	Asp	Ser	Thr	Leu	305	310	315
Phe	Thr	Leu	Ala	Lys	Met	Met	Pro	Gly	Cys	Glu	Ile	Tyr	Ser	Asp	Ser	325	330	335
Gly	Asn	His	Ala	Ser	Met	Ile	Gln	Gly	Ile	Arg	Asn	Ser	Arg	Val	Pro	340	345	350
Lys	Tyr	Ile	Phe	Arg	His	Asn	Asp	Val	Ser	His	Leu	Arg	Glu	Leu	Leu	355	360	365
Gln	Arg	Ser	Asp	Pro	Ser	Val	Pro	Lys	Ile	Val	Ala	Phe	Glu	Thr	Val	370	375	380
His	Ser	Met	Asp	Gly	Ala	Val	Cys	Pro	Leu	Glu	Glu	Leu	Cys	Asp	Val	385	390	395
Ala	His	Glu	Phe	Gly	Ala	Ile	Thr	Phe	Val	Asp	Glu	Val	His	Ala	Val	405	410	415
Gly	Leu	Tyr	Gly	Ala	Arg	Gly	Gly	Gly	Ile	Gly	Asp	Arg	Asp	Gly	Val	420	425	430
Met	Pro	Lys	Met	Asp	Ile	Ile	Ser	Gly	Thr	Leu	Gly	Lys	Ala	Phe	Gly	435	440	445
Cys	Val	Gly	Gly	Tyr	Ile	Ala	Ser	Thr	Ser	Ser	Leu	Ile	Asp	Thr	Val	450	455	460
Arg	Ser	Tyr	Ala	Ala	Gly	Phe	Ile	Phe	Thr	Thr	Ser	Leu	Pro	Pro	Met	465	470	475
Leu	Leu	Ala	Gly	Ala	Leu	Glu	Ser	Val	Arg	Ile	Leu	Lys	Ser	Ala	Glu	485	490	495
Gly	Arg	Val	Leu	Arg	Arg	Gln	His	Gln	Arg	Asn	Val	Lys	Leu	Met	Arg	500	505	510

Gln	Met	Leu	Met	Asp	Ala	Gly	Leu	Pro	Val	Val	His	Cys	Pro	Ser	His
	515						520					525			
Ile	Ile	Pro	Val	Arg	Val	Ala	Asp	Ala	Ala	Lys	Asn	Thr	Glu	Val	Cys
	530					535					540				
Asp	Glu	Leu	Met	Ser	Arg	His	Asn	Ile	Tyr	Val	Gln	Ala	Ile	Asn	Tyr
545					550					555					560
Pro	Thr	Val	Pro	Arg	Gly	Glu	Glu	Leu	Leu	Arg	Ile	Ala	Pro	Thr	Pro
				565					570					575	
His	His	Thr	Pro	Gln	Met	Met	Asn	Tyr	Phe	Leu	Glu	Asn	Leu	Leu	Val
			580					585					590		
Thr	Trp	Lys	Gln	Val	Gly	Leu	Glu	Leu	Lys	Pro	His	Ser	Ser	Ala	Glu
		595					600					605			
Cys	Asn	Phe	Cys	Arg	Arg	Pro	Leu	His	Phe	Glu	Val	Met	Ser	Glu	Arg
	610					615					620				
Glu	Lys	Ser	Tyr	Phe	Ser	Gly	Leu	Ser	Lys	Leu	Val	Ser	Ala	Gln	Ala
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<210> 358

<211> 9

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
peptide recognized by HLA-A2 restricted cytotoxic
T lymphocytes

<400> 358

Gln	Ile	Gly	Ala	Lys	Phe	Trp	Glu	Val
1				5				

<210> 359

<211> 9

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
peptide recognized by HLA-A2 restricted cytotoxic
T lymphocytes

<400> 359

Phe	Met	Pro	Gly	Phe	Ala	Pro	Leu	Thr
1				5				

<210> 360
<211> 10
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
peptide recognized by HLA-A2 restricted cytotoxic
T lymphocytes

<400> 360
Thr Leu Leu Val Ala Val Phe Gln Asp Val
1 5 10

<210> 361
<211> 10
<212> PRT
<213> Artificial Sequence

<220>
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peptide recognized by HLA-A2 restricted cytotoxic
T lymphocytes

<400> 361
Val Ala Tyr Leu Gly Phe Val Phe Tyr Leu
1 5 10

<210> 362
<211> 10
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
peptide recognized by HLA-A2 restricted cytotoxic
T lymphocytes

<400> 362
Leu Leu Pro Thr Leu Arg Lys Gln Tyr Cys
1 5 10

<210> 363
<211> 9
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
peptide recognized by HLA-A2 restricted cytotoxic
T lymphocytes

<400> 363
Met Val Tyr Asp Leu Tyr Lys Thr Leu
1 5

<210> 364
<211> 10
<212> PRT
<213> Artificial Sequence

<220>
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peptide recognized by HLA-A2 restricted cytotoxic
T lymphocytes

<400> 364
Gly Leu Cys Lys Phe Gly Phe Tyr Glu Val
1 5 10

<210> 365
<211> 9
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
peptide recognized by HLA-A2 restricted cytotoxic
T lymphocytes

<400> 365
Phe Gly Phe Tyr Glu Val Phe Lys Val
1 5

<210> 366
<211> 9
<212> PRT
<213> Artificial Sequence

<220>
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peptide recognized by HLA-A2 restricted cytotoxic
T lymphocytes

<400> 366
Leu Gln Trp Phe Ile Tyr Asp Ser Val
1 5

<210> 367
<211> 10
<212> PRT
<213> Artificial Sequence

<220>
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peptide recognized by HLA-A2 restricted cytotoxic
T lymphocytes

<400> 367

Ala Leu Ala Pro Met Glu Ala Ala Lys Val
1 5 10

<210> 368

<211> 10

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
peptide recognized by HLA-A2 restricted cytotoxic
T lymphocytes

<400> 368

Arg Thr Val Glu Ala Leu Tyr Lys Phe Val
1 5 10

<210> 369

<211> 9

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
peptide recognized by HLA-A2 restricted cytotoxic
T lymphocytes

<400> 369

Val Leu Ser Cys Gly Leu Thr His Thr
1 5

<210> 370

<211> 9

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
peptide recognized by HLA-A2 restricted cytotoxic
T lymphocytes

<400> 370

Ala Leu Leu Phe Ser Ser Cys Phe Val
1 5

<210> 371

<211> 10

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
peptide recognized by HLA-A2 restricted cytotoxic
T lymphocytes

<400> 371

Phe Leu Ser Arg Val Pro Gln Ala Phe Leu
1 5 10

<210> 372

<211> 10

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
peptide recognized by HLA-A2 restricted cytotoxic
T lymphocytes

<400> 372

Met Leu Leu Ala Gly Ala Leu Glu Ser Val
1 5 10

<210> 373

<211> 10

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
peptide recognized by HLA-A2 restricted cytotoxic
T lymphocytes

<400> 373

Leu Leu Gln Asp Asn Leu Pro Lys Ser Val
1 5 10

<210> 374

<211> 9

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
peptide recognized by HLA-A2 restricted cytotoxic
T lymphocytes

<400> 374

Leu Met Ser Arg His Asn Ile Tyr Val
1 5

<210> 375
<211> 10
<212> PRT
<213> Artificial Sequence

<220>
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peptide recognized by HLA-A2 restricted cytotoxic
T lymphocytes

<400> 375
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1 5 10

<210> 376
<211> 10
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
peptide recognized by HLA-A2 restricted cytotoxic
T lymphocytes

<400> 376
Phe Leu Gln Lys Ala Gly Lys Ser Leu Leu
1 5 10

<210> 377
<211> 9
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
peptide recognized by HLA-A2 restricted cytotoxic
T lymphocytes

<400> 377
Leu Leu Phe Ser Ser Cys Phe Val Ala
1 5

<210> 378
<211> 9
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
peptide recognized by HLA-A2 restricted cytotoxic
T lymphocytes

<400> 378
Gly Leu Leu Lys Asn Phe Gln Asp Ile
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<210> 379

<211> 9

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
peptide recognized by HLA-A2 restricted cytotoxic
T lymphocytes

<400> 379

Ser Val Trp Cys Ser Asn Asp Tyr Leu
1 5

<210> 380

<211> 10

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
peptide recognized by HLA-A2 restricted cytotoxic
T lymphocytes

<400> 380

Leu Leu Val Thr Trp Lys Gln Val Gly Leu
1 5 10

<210> 381

<211> 10

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
peptide recognized by HLA-A2 restricted cytotoxic
T lymphocytes

<400> 381

Val Ala Asn Asp Ser Thr Leu Phe Thr Leu
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<210> 382

<211> 974

<212> DNA

<213> Homo sapiens

<400> 382

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cccacaaaac caagcgaggc caggcgcgtc tggaccgtct caaggtgttt gacggcatcc 180
cacctcccta cgacaagaaa aagcggatgg tggttcctgc tgccctcaag gtcgtgcgtc 240
tgaagcctac aagaaagttt gcctatctgg ggcgcctggc tcacgaggtt ggctggaagt 300

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accaggcagt gacagccacc ctggaggaga agaggaaaga gaaagccaag atccactacc 360
ggaagaagaa acagctcatg aggctacgga aacaggccga gaagaacgtg gagaagaaaa 420
ttgacaaata cacagaggtc ctcaagaccc acggactcct ggtctgagcc caataaagac 480
tgttaattcc tcatgcgttg cctgcccttc ctccattgtt gccctggaat gtacgggacc 540
caggggcagc agcagtcacg gtgccacagg cagccctggg acataggaag ctgggagcaa 600
ggaaagggtc ttagtcactg cctcccgaag ttgcttgaaa gcactcggag aattgtgcag 660
gtgtcattta tctatgacca ataggaagag caaccagtta ctatgagtga aaggagacca 720
gaagactgat tggaggggcc tatcttgtga gtggggcatc tgttgactt cccacctggt 780
catatactct gcagctgtta gaatgtgcaa gcacttgggg acagcatgag cttgctgttg 840
tacacagggt atttctagaa gcagaaatag actgggaaga tgcacaacca aggggttaca 900
ggcatcgccc atgtcctca cctgtatatt gtaatcagaa ataaattgct tttaaagaaa 960
aaaaaaaaaa aaaa 974

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<210> 383

<211> 821

<212> DNA

<213> Homo sapiens

<400> 383

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atctcttctc cctgcccatt aaggaatcag agatcattga tttcttcttg gggccctctc 180
tcaaggatga ggttttgaag attatgccag tgcagaagca gaccctgccc ggccagcgca 240
ccaggttcaa ggcatttgtt gctatcgggg actacaatgg ccacgtcggt ctgggtgtta 300
agtgtcccaa ggaggtggcc accgccatcc gtggggccat catcctggcc aagctctcca 360
tcgtcccggt gcgcagaggc tactggggga acaagatcgg caagccccac actgtccctt 420
gcaagggtgac aggcgcgtgc ggctctgtgc tggtagcct catccctgca cccaggggca 480
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ccaagtctcc ctatcaggag ttactgacc acctcgtcaa gaccacacc agagtctccg 720
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agtgaattta gcgtgaaaaa aaaaaaaaaa aaaaaaaaaa a 821

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<210> 384

<211> 741

<212> DNA

<213> Homo sapiens

<400> 384

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aagtccactc cccgccctaa gttctctgtg tgtgtcctgg gggaccagca gcactgtgac 240
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aataaaaaaac tgggtcaagaa gctggccaag aagtatgatg cgtttttggc ctcagagtct 360
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<210> 385
 <211> 142
 <212> PRT
 <213> Homo sapiens

<400> 385
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 20 25 30
 Arg Gly Gln Ala Ala Leu Asp Arg Leu Lys Val Phe Asp Gly Ile Pro
 35 40 45
 Pro Pro Tyr Asp Lys Lys Lys Arg Met Val Val Pro Ala Ala Leu Lys
 50 55 60
 Val Val Arg Leu Lys Pro Thr Arg Lys Phe Ala Tyr Leu Gly Arg Leu
 65 70 75 80
 Ala His Glu Val Gly Trp Lys Tyr Gln Ala Val Thr Ala Thr Leu Glu
 85 90 95
 Glu Lys Arg Lys Glu Lys Ala Lys Ile His Tyr Arg Lys Lys Lys Gln
 100 105 110
 Leu Met Arg Leu Arg Lys Gln Ala Glu Lys Asn Val Glu Lys Lys Ile
 115 120 125
 Asp Lys Tyr Thr Glu Val Leu Lys Thr His Gly Leu Leu Val
 130 135 140

<210> 386
 <211> 233
 <212> PRT
 <213> Homo sapiens

<400> 386
 Met Pro Val Thr Lys Leu Gly Arg Leu Val Lys Asp Met Lys Ile Lys
 1 5 10 15
 Ser Leu Glu Glu Ile Tyr Leu Phe Ser Leu Pro Ile Lys Glu Ser Glu
 20 25 30
 Ile Ile Asp Phe Phe Leu Gly Ala Ser Leu Lys Asp Glu Val Leu Lys
 35 40 45
 Ile Met Pro Val Gln Lys Gln Thr Arg Ala Gly Gln Arg Thr Arg Phe
 50 55 60
 Lys Ala Phe Val Ala Ile Gly Asp Tyr Asn Gly His Val Gly Leu Gly
 65 70 75 80
 Val Lys Cys Ser Lys Glu Val Ala Thr Ala Ile Arg Gly Ala Ile Ile
 85 90 95

176

Leu Ala Lys Leu Ser Ile Val Pro Val Arg Arg Gly Tyr Trp Gly Asn
100 105 110

Lys Ile Gly Lys Pro His Thr Val Pro Cys Lys Val Thr Gly Arg Cys
115 120 125

Gly Ser Val Leu Val Arg Leu Ile Pro Ala Pro Arg Gly Thr Gly Ile
130 135 140

Val Ser Ala Pro Val Pro Lys Lys Leu Leu Met Met Ala Gly Ile Asp
145 150 155 160

Asp Cys Tyr Thr Ser Ala Arg Gly Cys Thr Ala Thr Leu Gly Asn Phe
165 170 175

Ala Lys Ala Thr Phe Asp Ala Ile Ser Lys Thr Tyr Ser Tyr Leu Thr
180 185 190

Pro Asp Leu Trp Lys Glu Thr Val Phe Thr Lys Ser Pro Tyr Gln Glu
195 200 205

Phe Thr Asp His Leu Val Lys Thr His Thr Arg Val Ser Val Gln Arg
210 215 220

Thr Gln Ala Pro Ala Val Ala Thr Thr
225 230

<210> 387
<211> 217
<212> PRT
<213> Homo sapiens

<400> 387
Met Ser Ser Lys Val Ser Arg Asp Thr Leu Tyr Glu Ala Val Arg Glu
1 5 10 15

Val Leu His Gly Asn Gln Arg Lys Arg Arg Lys Phe Leu Glu Thr Val
20 25 30

Glu Leu Gln Ile Ser Leu Lys Asn Tyr Asp Pro Gln Lys Asp Lys Arg
35 40 45

Phe Ser Gly Thr Val Arg Leu Lys Ser Thr Pro Arg Pro Lys Phe Ser
50 55 60

Val Cys Val Leu Gly Asp Gln Gln His Cys Asp Glu Ala Lys Ala Val
65 70 75 80

Asp Ile Pro His Met Asp Ile Glu Ala Leu Lys Lys Leu Asn Lys Asn
85 90 95

Lys Lys Leu Val Lys Lys Leu Ala Lys Lys Tyr Asp Ala Phe Leu Ala
100 105 110

Ser Glu Ser Leu Ile Lys Gln Ile Pro Arg Ile Leu Gly Pro Gly Leu
115 120 125

Asn Lys Ala Gly Lys Phe Pro Ser Leu Leu Thr His Asn Glu Asn Met
 130 135 140

Val Ala Lys Val Asp Glu Val Lys Ser Thr Ile Lys Phe Gln Met Lys
 145 150 155 160

Lys Val Leu Cys Leu Ala Val Ala Val Gly His Val Lys Met Thr Asp
 165 170 175

Asp Glu Leu Val Tyr Asn Ile His Leu Ala Val Asn Phe Leu Val Ser
 180 185 190

Leu Leu Lys Lys Asn Trp Gln Asn Val Arg Ala Leu Tyr Ile Lys Ser
 195 200 205

Pro Met Gly Lys Pro Gln Arg Leu Tyr
 210 215

<210> 388

<211> 9

<212> PRT

<213> Artificial Sequence

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<223> Description of Artificial Sequence: Synthetic
 peptide recognized by HLA-A26 restricted cytotoxic
 T lymphocytes

<400> 388

Leu Val Leu Asp Gly Arg Gly His Leu
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<210> 389

<211> 9

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 peptide recognized by HLA-A26 restricted cytotoxic
 T lymphocytes

<400> 389

His Leu Leu Gly Arg Leu Ala Ala Ile
 1 5

<210> 390

<211> 9

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 peptide recognized by HLA-A26 restricted cytotoxic
 T lymphocytes

<400> 390

Ala Ile Val Ala Lys Gln Val Leu Leu
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<210> 391

<211> 9

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<213> Artificial Sequence

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peptide recognized by HLA-A26 restricted cytotoxic
T lymphocytes

<400> 391

Val Leu Leu Gly Arg Lys Val Val Val
1 5

<210> 392

<211> 9

<212> PRT

<213> Artificial Sequence

<220>

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peptide recognized by HLA-A26 restricted cytotoxic
T lymphocytes

<400> 392

Ala Phe Leu Arg Lys Arg Met Asn Thr
1 5

<210> 393

<211> 9

<212> PRT

<213> Artificial Sequence

<220>

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peptide recognized by HLA-A26 restricted cytotoxic
T lymphocytes

<400> 393

His Phe Arg Ala Pro Ser Arg Ile Phe
1 5

<210> 394

<211> 9

<212> PRT

<213> Artificial Sequence

<220>

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peptide recognized by HLA-A26 restricted cytotoxic
T lymphocytes

<400> 394

Val Leu Lys Thr His Gly Leu Leu Val
1 5

<210> 395

<211> 9

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
peptide recognized by HLA-A26 restricted cytotoxic
T lymphocytes

<400> 395

Pro Val Thr Lys Leu Gly Arg Leu Val
1 5

<210> 396

<211> 9

<212> PRT

<213> Artificial Sequence

<220>

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peptide recognized by HLA-A26 restricted cytotoxic
T lymphocytes

<400> 396

Lys Ile Met Pro Val Gln Lys Gln Thr
1 5

<210> 397

<211> 9

<212> PRT

<213> Artificial Sequence

<220>

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peptide recognized by HLA-A26 restricted cytotoxic
T lymphocytes

<400> 397

Val Thr Gly Arg Cys Gly Ser Val Leu
1 5

<210> 398
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<213> Artificial Sequence

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peptide recognized by HLA-A26 restricted cytotoxic
T lymphocytes

<400> 398
Arg Leu Ile Pro Ala Pro Arg Gly Thr
1 5

<210> 399
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<213> Artificial Sequence

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peptide recognized by HLA-A26 restricted cytotoxic
T lymphocytes

<400> 399
Asp Leu Trp Lys Glu Thr Val Phe Thr
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<210> 400
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peptide recognized by HLA-A26 restricted cytotoxic
T lymphocytes

<400> 400
His Leu Val Lys Thr His Thr Arg Val
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<210> 401
<211> 9
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<220>
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peptide recognized by HLA-A26 restricted cytotoxic
T lymphocytes

<400> 401
His Thr Arg Val Ser Val Gln Arg Thr
1 5

<210> 402
<211> 9
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peptide recognized by HLA-A26 restricted cytotoxic
T lymphocytes

<400> 402
Arg Thr Gln Ala Pro Ala Val Ala Thr
1 5

<210> 403
<211> 9
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<220>
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peptide recognized by HLA-A26 restricted cytotoxic
T lymphocytes

<400> 403
Thr Leu Tyr Glu Ala Val Arg Glu Val
1 5

<210> 404
<211> 9
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<220>
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peptide recognized by HLA-A26 restricted cytotoxic
T lymphocytes

<400> 404
Glu Thr Val Glu Leu Gln Ile Ser Leu
1 5

<210> 405
<211> 9
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<213> Artificial Sequence

<220>
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peptide recognized by HLA-A26 restricted cytotoxic
T lymphocytes

<400> 405

Lys Val Asp Glu Val Lys Ser Thr Ile
1 5

<210> 406

<211> 9

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
peptide recognized by HLA-A26 restricted cytotoxic
T lymphocytes

<400> 406

Thr Ile Lys Phe Gln Met Lys Val Leu
1 5

<210> 407

<211> 9

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
peptide recognized by HLA-A26 restricted cytotoxic
T lymphocytes

<400> 407

Lys Val Leu Cys Leu Ala Val Ala Val
1 5

<210> 408

<211> 9

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
peptide recognized by HLA-A26 restricted cytotoxic
T lymphocytes

<400> 408

Ser Thr Met Gly Lys Pro Gln Arg Leu
1 5

<210> 409

<211> 9

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
peptide based on HIV

<400> 409

Ser Leu Tyr Asn Thr Tyr Ala Thr Leu
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<210> 410

<211> 9

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
peptide based on SW620-cl.48

<400> 410

Tyr Leu Trp Arg Thr Ser Leu Tyr Leu
1 5

<210> 411

<211> 9

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
peptide based on SW620-cl.48

<400> 411

Met Leu Gly Glu Glu Asn Thr Tyr Leu
1 5

<210> 412

<211> 9

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
peptide based on SW620-cl.48

<400> 412

Thr Leu Thr Ala Leu Gln Trp Phe Ile
1 5

<210> 413

<211> 9

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
peptide based on SW620-cl.48

<400> 413

Phe Leu Gly Tyr Ser Met Gln Gly Leu
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<210> 414

<211> 9

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
peptide based on SW620-cl.48

<400> 414

Gly Leu Phe Ala Arg Ile Ile Met Ile
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<210> 415

<211> 10

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
peptide based on SW620-cl.48

<400> 415

Tyr Ile Ala Gly Val Phe Cys Ala Ile Val
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<210> 416

<211> 9

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
peptide based on SW620-cl.48

<400> 416

Phe Val Ala Gly Tyr Ile Ala Gly Val
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<210> 417

<211> 9

<212> PRT

<213> Artificial Sequence

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peptide based on SW620-cl.48

<400> 417

Ile Met Ile Gly Thr Leu Thr Ala Leu

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<210> 418

<211> 10

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
peptide based on SW620-cl.48

<400> 418

Gly Leu Thr His Thr Ala Val Val Pro Leu

1 5 10

<210> 419

<211> 10

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
peptide based on SW620-cl.48

<400> 419

Gly Ile Phe Asn Gly Phe Ser Val Thr Leu

1 5 10

<210> 420

<211> 10

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
peptide based on KE4-cl.21

<400> 420

Lys Met Tyr Lys Glu Glu Gly Leu Lys Ala

1 5 10

<210> 421

<211> 9

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
peptide based on KE4-cl.21

<400> 421

Ser Thr Pro Arg Pro Lys Phe Ser Val

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<210> 422

<211> 9

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
peptide based on KE4-cl.21

<400> 422

Ala Val Asp Ile Pro His Met Asp Ile

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<210> 423

<211> 9

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
peptide based on KE4-cl.21

<400> 423

Lys Leu Asn Lys Asn Lys Lys Leu Val

1

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<210> 424

<211> 9

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
peptide based on KE4-cl.21

<400> 424

Lys Leu Ala Lys Lys Tyr Asp Ala Phe

1

5

<210> 425

<211> 9

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
peptide based on KE4-cl.21

<400> 425

Ala Phe Leu Ala Ser Glu Ser Leu Ile
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<210> 426

<211> 9

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
peptide based on KE4-cl.21

<400> 426

Ser Leu Ile Lys Gln Ile Pro Arg Ile
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<210> 427

<211> 9

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
peptide based on KE4-cl.21

<400> 427

Leu Ile Lys Gln Ile Pro Arg Ile Leu
1 5

<210> 428

<211> 9

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
peptide based on KE4-cl.21

<400> 428

Leu Leu Thr His Asn Glu Asn Met Val
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<210> 429

<211> 9

<212> PRT

<213> Artificial Sequence

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<223> Description of Artificial Sequence: Synthetic
peptide based on KE4-cl.21

<400> 429

Lys Val Leu Cys Leu Ala Val Ala Val
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<210> 430

<211> 9

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
peptide based on KE4-cl.21

<400> 430

Cys Leu Ala Val Ala Val Gly His Val
1 5

<210> 431

<211> 9

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
peptide based on KE4-cl.21

<400> 431

His Val Lys Met Thr Asp Asp Glu Leu
1 5

<210> 432

<211> 9

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
peptide based on KE4-cl.21

<400> 432

Leu Val Tyr Asn Ile His Leu Ala Val
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<210> 433

<211> 9

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
peptide based on KE4-cl.21

<400> 433

Asn Ile His Leu Ala Val Asn Phe Leu

1

5

<210> 434

<211> 9

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
peptide based on KE4-cl.21

<400> 434

Ala Val Asn Phe Leu Val Ser Leu Leu

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5

<210> 435

<211> 9

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
peptide based on KE4-cl.21

<400> 435

Leu Leu Lys Lys Asn Trp Gln Asn Val

1

5

<210> 436

<211> 9

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
peptide based on HIV

<400> 436

Ser Leu Tyr Asn Thr Val Ala Thr Leu

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